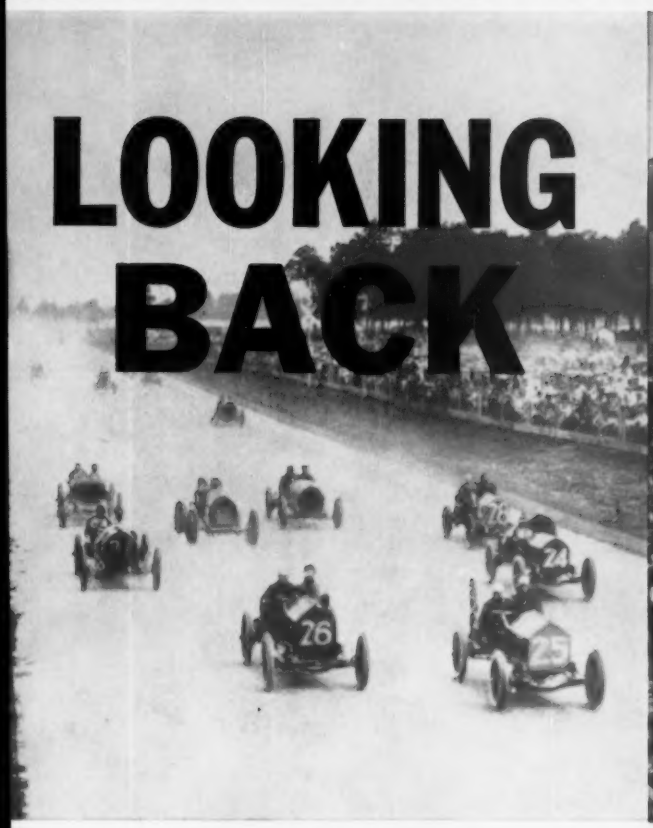
MOTOR AGE

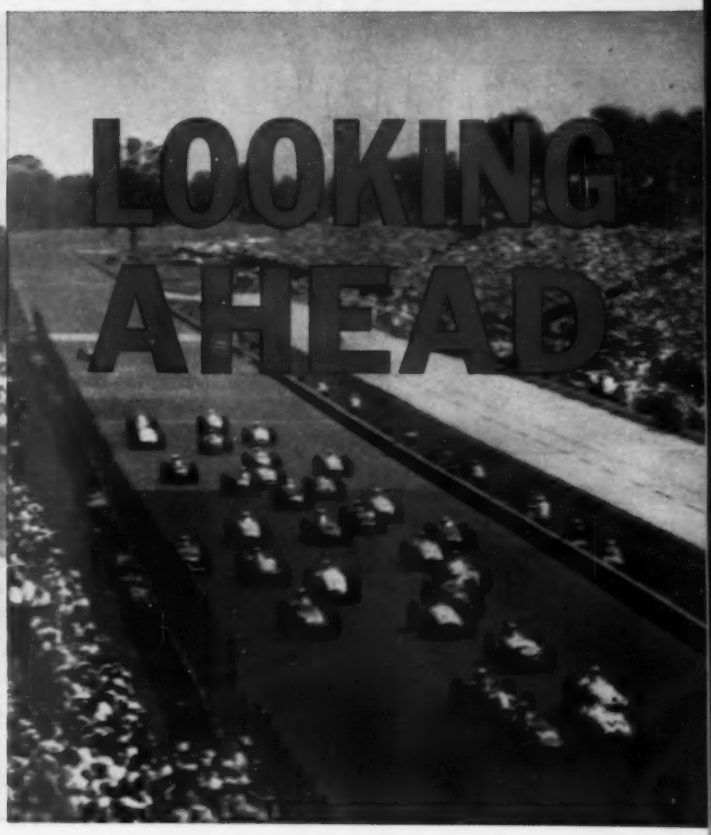
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MAY 1961

INDIANAPOLIS



LOOKING BACK



LOOKING AHEAD

How Long Will Tires Last? • P. 40

Sell Shocks For Safety's Sake • P. 48

Cooling System Termites • P. 52

When You Use Your Lift • P. 54



WHY THE PROS PREFER PERFECT CIRCLE PISTON RINGS...

PERFECT CIRCLE PISTON RINGS ARE INSTALLED AS ORIGINAL FACTORY EQUIPMENT IN 94 BRANDS OF VEHICLES AND ENGINES

STRAIGHT-THROUGH DRAINAGE

PROTECTS AGAINST CLOGGING



The slots in a genuine Perfect Circle "98" oil ring face the cylinder wall head-on for straight-through, free-flow drainage. There are no bends or curves in the slots to restrict the natural flow of oil.

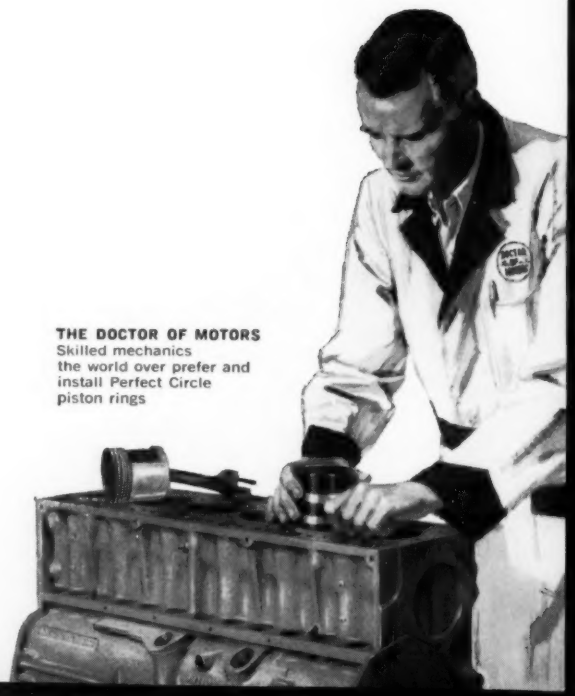
As a result, the Perfect Circle "98" delivers added protection against clogging. And, you get it in all 19 variations of the basic "98" ring, engineered so PC ring sets can meet the differing needs of individual engines.

Straight-through drainage is just one reason why leading engine and vehicle manufacturers, fleet operators, race drivers and mechanics the world over prefer PC piston rings. Always install Perfect Circles — the rings the "pros" prefer.

PERFECT CIRCLE

PISTON RINGS • POWER SERVICE PRODUCTS

HAGERSTOWN, INDIANA · DON MILLS, ONTARIO, CANADA



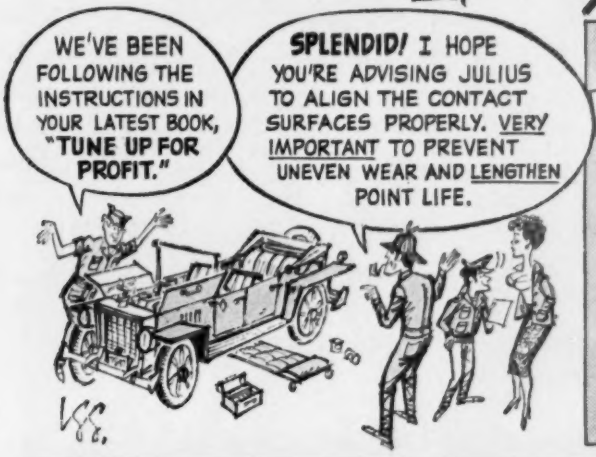
THE DOCTOR OF MOTORS
Skilled mechanics the world over prefer and install Perfect Circle piston rings

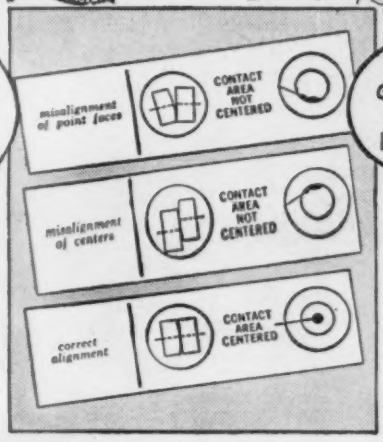
ANOTHER **BLUE STREAK** SECRET SERVICE TIP FOR YOU.

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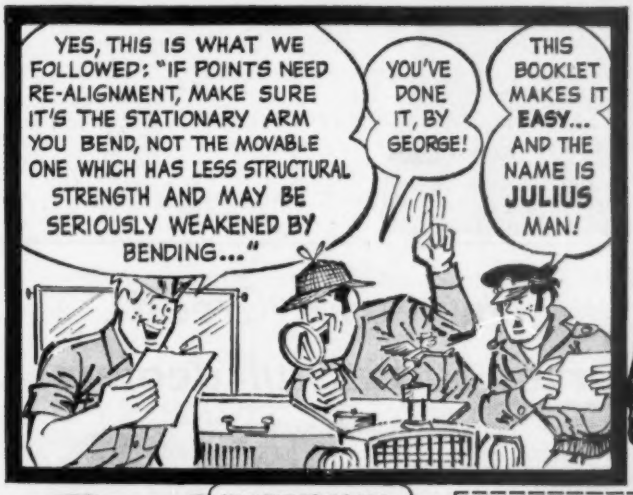
"THE CASE OF THE **BOOKLET** AND THE **BEATNIK!**"





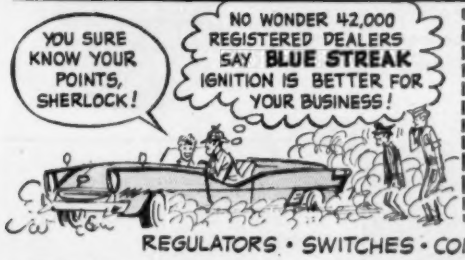






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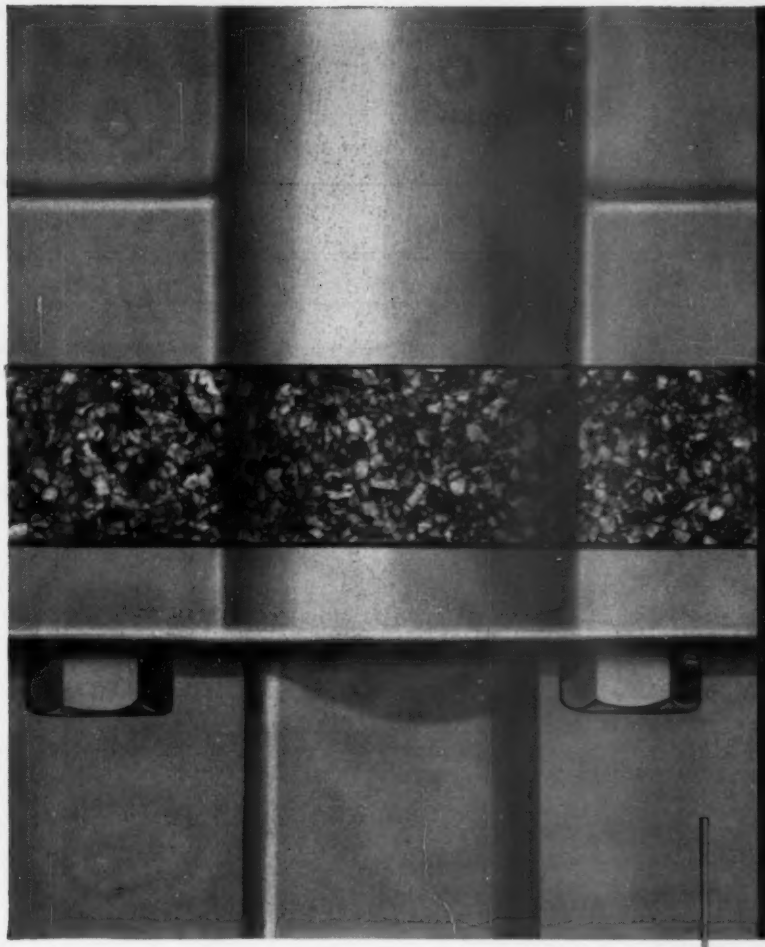
says JOHN A. DURSI, Chrysler-Plymouth dealer, Bronx, New York

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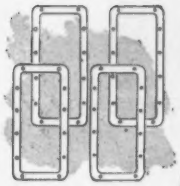
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Indy's All For You—Body And Frame **42**

A pre-race look at some of the men and cars competing in the Indianapolis "500" on Memorial Day.

The Day Harroun Won—at 74.59 M.P.H. **46**

A salute to the "500" on its 50th anniversary. Some unusual pictures of how it all started and the people who started it.

Flim-Flam—Bam—You've Had It **50**

From Cairo to Kokomo the "Con" artists are still going strong. Here are some ways to keep their hands out of your pockets.

How To Fight Cooling System Termites **52**

The best defense is a good offense. A close look at how these "Termites" operate and an effective plan for beating them to the punch.

Use Your Head When You Use Your Lift **54**

Are you looking for ways to increase your shop profits? Here are some time-saving, money-making suggestions that will help you do just that.

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"Gentlemen, Start Your Engines!"



The Day Harroun Won



Buick Skylark Sings



Use Your Head When You Use Your Lift

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UPCOMING

"Architects of the Automotive Future," an inside look at the cars of the future and how they come to be. Also, some suggestions on "How to Solve the Mechanic Shortage." An interview with our new Under Secretary of Commerce for Transportation, Clarence D. Martin.

MOTOR AGE. Published monthly by Chilton Company, Chestnut & 56th Sts., Philadelphia 39, Pa. Application for acceptance as controlled circulation publication pending at Philadelphia, Pa. with additional entry at Easton, Pa. Subscription price: United States, United States Possessions, $4.00 for one year, $7.00 for two years; Canadian, Foreign, $5.00 per year, $8.00 for two years; single copies 40 cents. COPYRIGHT 1961 by CHILTON COMPANY.

CAR and TRUCK shop kinks

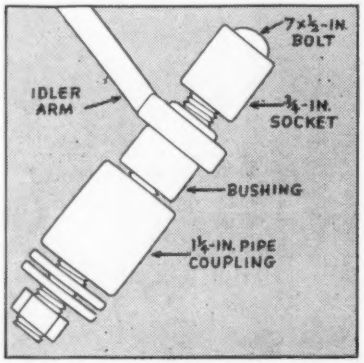
$25 for KINK of the month $10 paid for other KINKS

Removing And Installing Steering Arm Idler Bushings

William Wise, 121 E. North St., Danville, Ill.

Kink of the Month

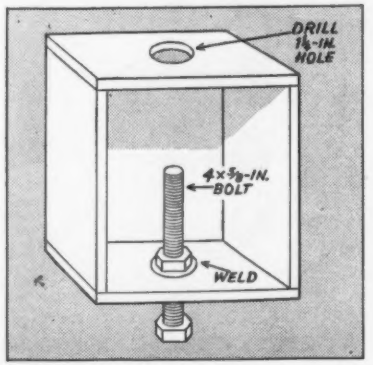
101. To remove or install idler arm bushings; use a ½ in. bolt, 7 in. long; a ¾ in. socket and a 1 in. by 1¼ in. pipe coupling. When threaded through the bushing properly the bushing can be pressed out or in very quickly. Simply reverse the bolt position thru the idler arm bushing when reinstalling new bushing.



Tool For Removing Universal Joint Crosses

Richard L. Robbins, 4th and Main St., Chadron, Nebraska.

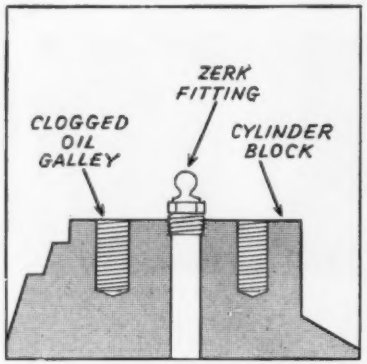
102. We built a tool to remove and replace universal joints. It consists of two pieces of steel ⅜" × 2" × 5" and two pieces ⅜" × 2" × 5½" welded in the form of a box plus a ⅝" × 4" steel bolt and nut. Used with an impact wrench, the tool enables us to change the universal in considerably less time. By using it there is no danger of damaging the U joint from pounding with a hammer.



Remedy For Lack Of Oil To Rocker Arm Assembly

Ray Van Heuvalen, 221 W. 13th St., Holland, Mich.

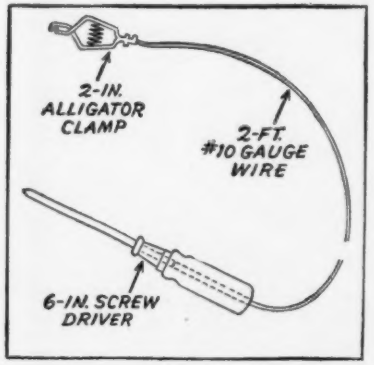
103. To remove obstruction in oil galley from cam bearing to the rocker arm, remove the rocker arm assembly drill and tap oil passage on top side of cylinder head. Install a zerk grease fitting and apply pressure. Slug will soon be forced out. Remove zerk fitting, install rocker arm assembly. This system eliminates removal of engine from chassis for cleaning of plugged oil galleys.



Tool For Shorting Out Spark Plugs

Larry Iacono, 121 West 21st St., Chester, Pa.

104. On some V8 engines it is hard to short out the spark plugs due to their location. We take a 6 in. screw driver and remove the blade. Drill a hole through the handle, insert a wire through the handle, solder one end of wire to screw driver blade and insert blade with wire back into handle. Install an alligator clip to the other end of wire. Grind end of blade to a fine point for grounding out the spark plugs.





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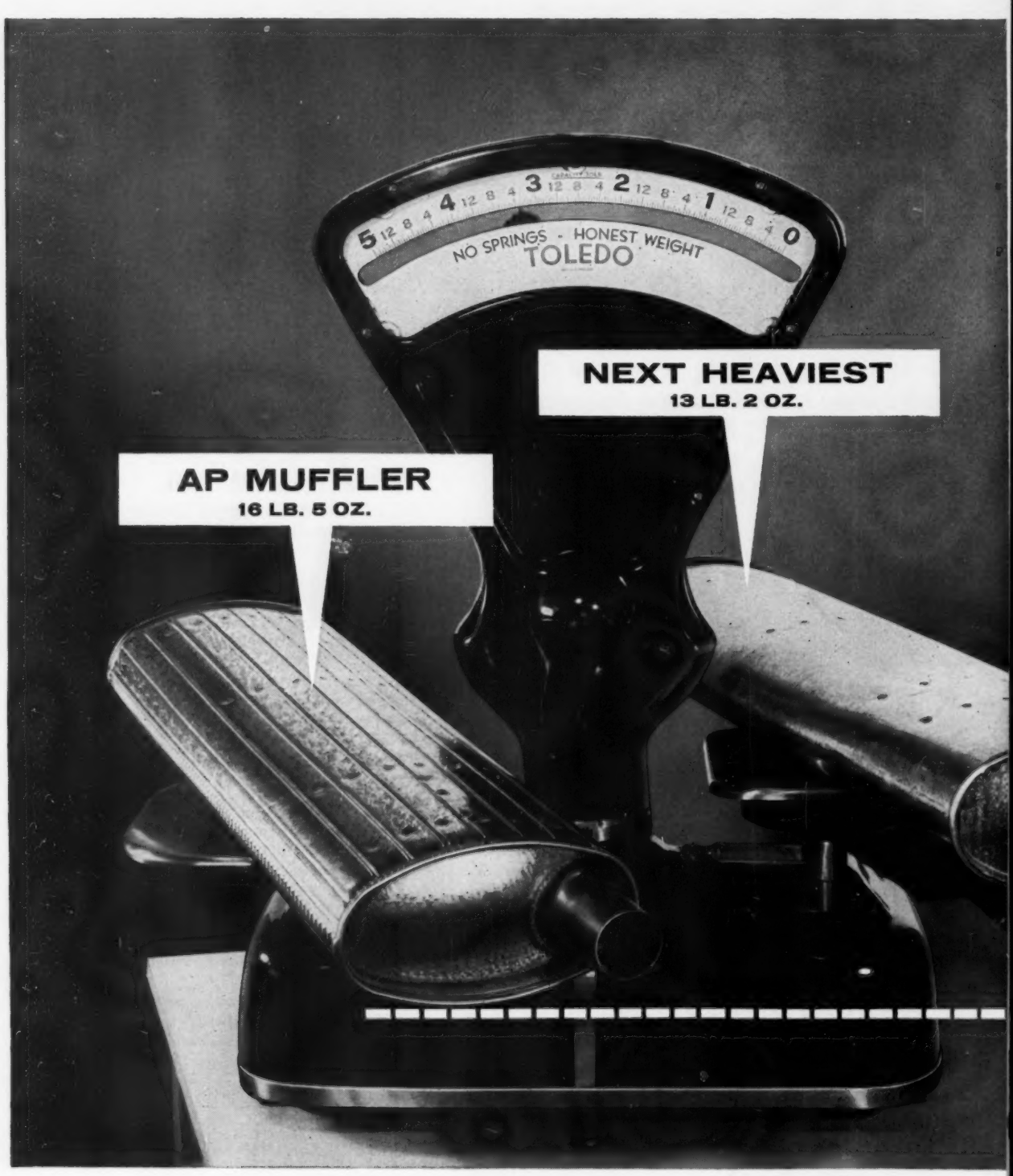

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More Steel by Weight

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56 Squeak Insulators

There are 56 special anti-squeak applications wherever metal-to-metal contact occurs in the body.

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Nothing cushions like a coil and the '61 Chevrolet is one of the few cars with a coil spring at every wheel.

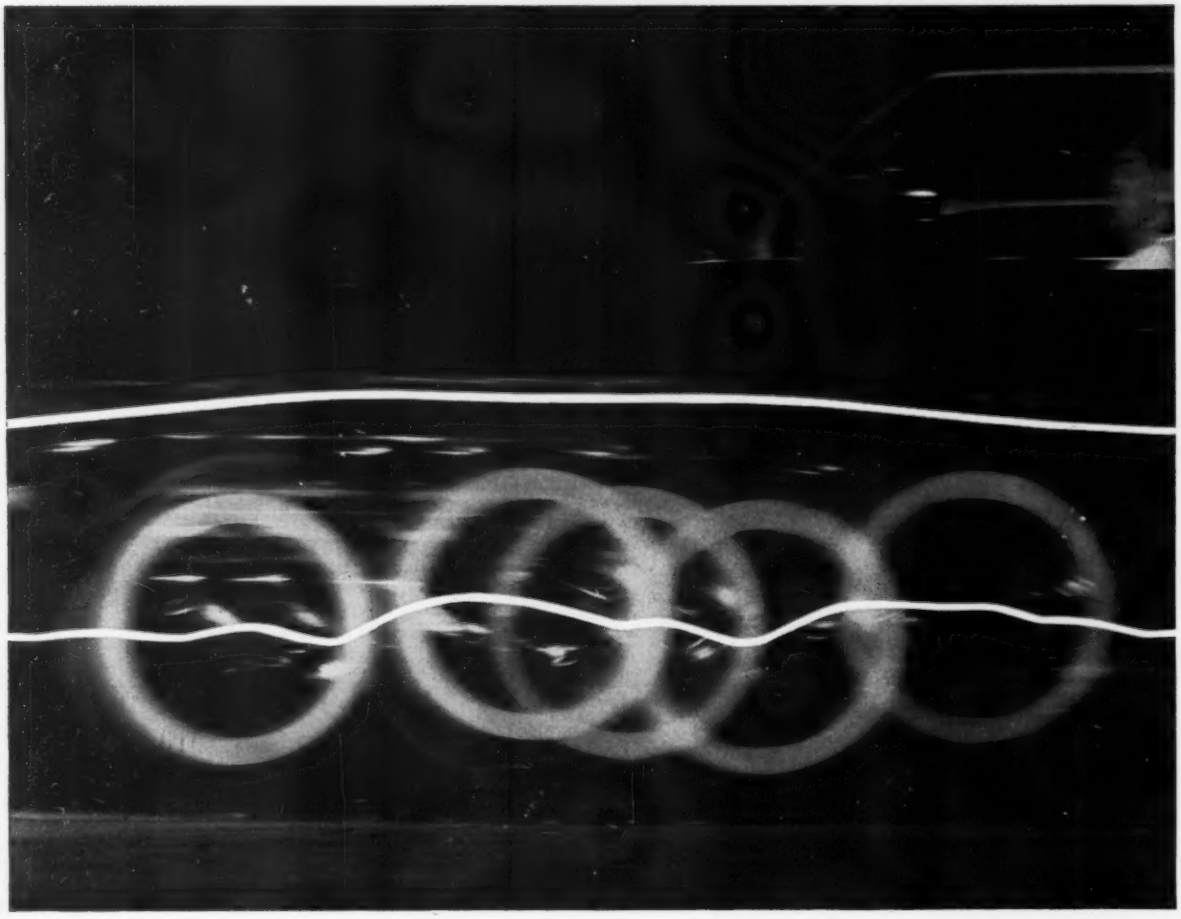
Butyl Rubber Body Mountings

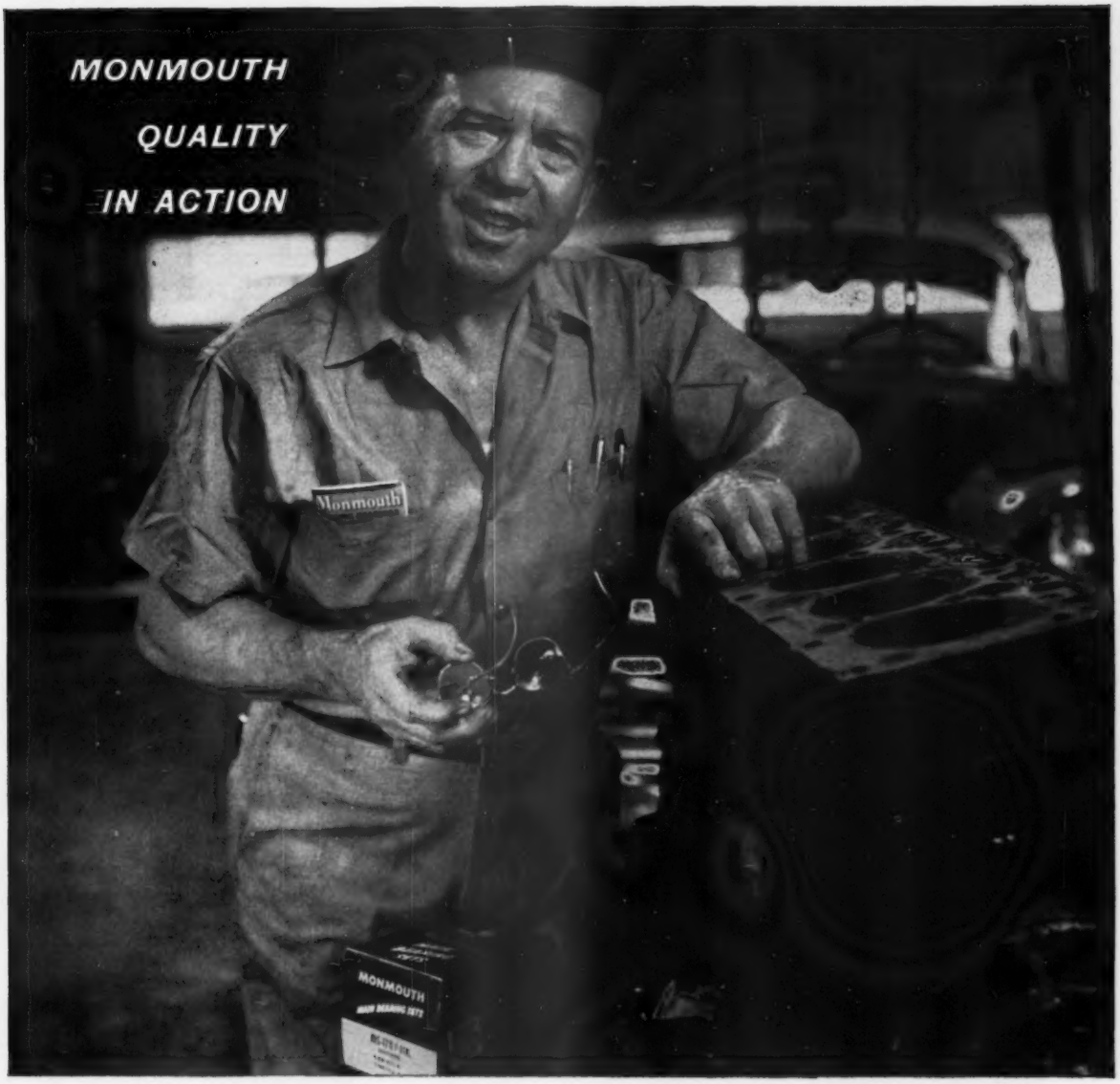
Chevrolet's body is joined to the chassis by extra-large butyl rubber cushions that further isolate the ride from the road.

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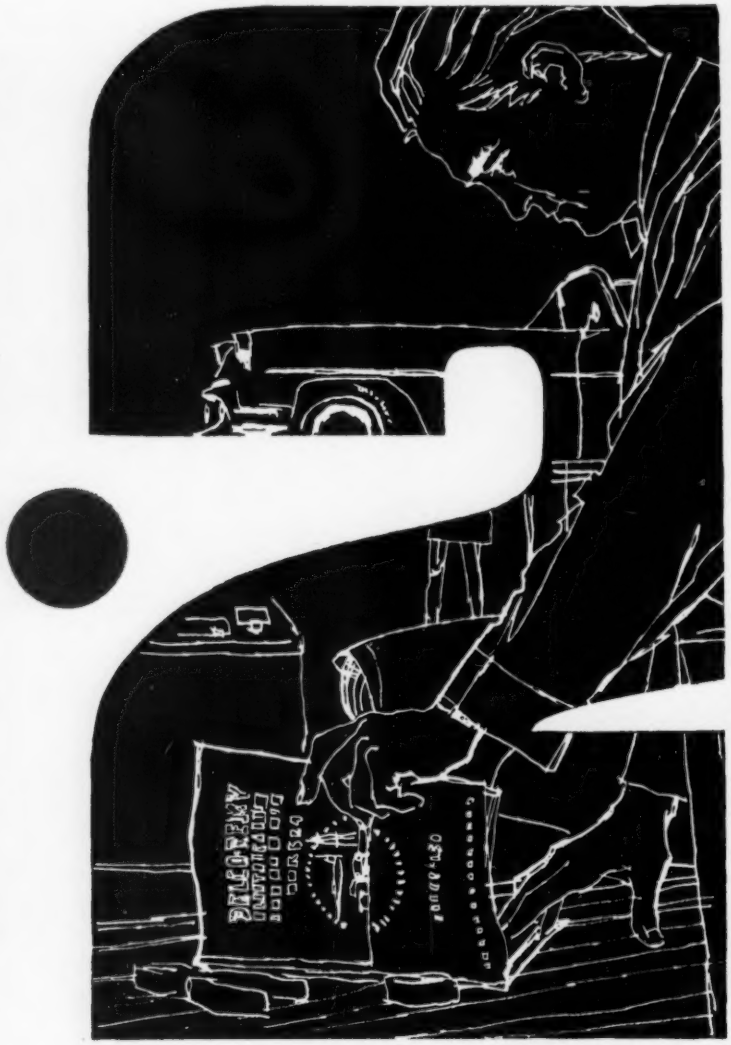
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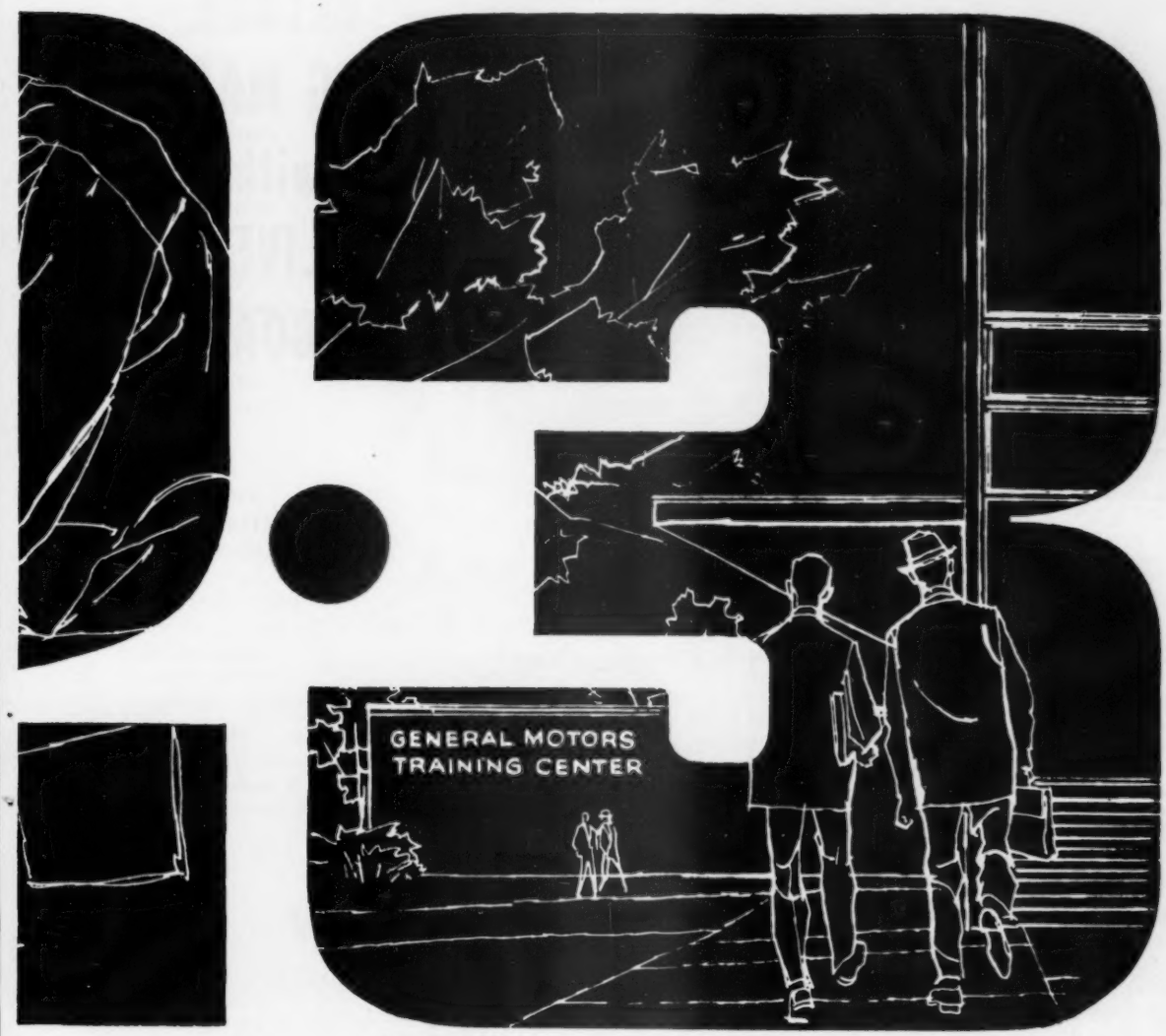
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MASTER ASSORTMENT ALSO AVAILABLE

AERO-SEAL JET® worm drive hose clamps

Whether you sell hose clamps, or whether you use them yourself, you'll find plenty of sales appeal in AERO-SEAL Jets. Compared with any other worm drive clamp, AERO-SEALS offer advantages in material, workmanship, and design. The patented JET feature permits almost instantaneous installation, yet the clamps can't work loose or be forced apart. The patented band slots are shaped and angled to prevent binding. A patented interlock of saddle and band is more secure than spot welding. No burrs or sharp edges, because AERO-SEALS are finished to aviation standards. Bands and saddles are 302-18-8 stainless steel. All stainless also available.

AERO-SEALS come in diameters from 7/16" to 15 feet to solve a multitude of fastening requirements. Don't accept less. Specify AERO-SEALS.

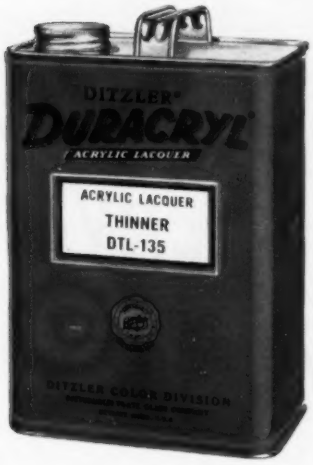
BREEZE CORPORATIONS, INC.

700 Liberty Avenue, Union, New Jersey
Cable Address: Breeze, Union, N. J.

DITZLER OFFERS 3 outstanding thinners for better repair of acrylic finishes!

DTL-135

▼ High-Gloss Acrylic Thinner



Allows acrylic to atomize and flow out properly, helps eliminate orange peel, and provides good gloss. Excellent for touch-up repairs or complete finishing. Also mist coating.

DTL-151

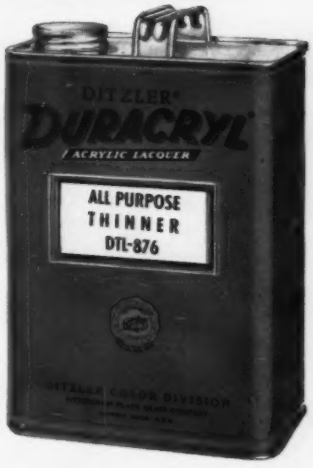
▼ Non-Penetrating Acrylic Spot-Repair Thinner



Specially designed for spot repairing of acrylic colors to cover up cracks on black and other weathered colors or lifting around featheredges. Has exceptionally fast drying properties.

DTL-876

▼ All-Purpose Thinner



Gives good gloss to colors and flows out primer-surfacers so they fill well and sand easily. Specially blended to work equally well with DURACRYL or lacquer colors and primer-surfacers.

These unusually high-quality products are completely new developments of DITZLER research laboratories . . . not merely modifications of existing materials. These thinners are specially formulated to meet the needs of varying surface conditions in acrylic repairs.

• **You'll find** these new DURACRYL® Thinners cut costs, save time, and keep your paint jobs looking new longer. Ask your DITZLER jobber for complete information.

Ditzler Color Division, Pittsburgh Plate Glass Company • Detroit 4, Mich. • Torrance, Calif.

PPG® DITZLER®

PAINTS • GLASS • CHEMICALS • BRUSHES • PLASTICS • FIBER GLASS

PITTSBURGH PLATE GLASS COMPANY

IN CANADA: CANADIAN PITTSBURGH INDUSTRIES LIMITED

When You become a

WAGNER® LOCKHEED® FRANCHISED DEALER



YOU'LL HAVE THE KEY TO PROFITABLE BRAKE SERVICE BUSINESS

First, you start with a *balanced inventory* of top quality brake products . . . (neatly stored in the handy, sturdy Wagner Brake Products Merchandiser, if you choose). And your stock is kept up regularly by your Wagner Lockheed supplier—no worries for you. Then, *your place of business will be prominently identified*—with signs, decals, emblems, etc.,—as a reliable place to have good brake service work done. But, best of all, you'll be sharing the well-built reputation of the leader in the hydraulic brake business—Wagner Lockheed.

Wagner® Lockheed®

THE BEST KNOWN . . . AND MOST TRUSTED NAME IN BRAKE SERVICE PRODUCTS

LOCKHEED BRAKE PARTS, FLUID, BRAKE LINING and LINED BRAKE SHOES • AIR HORNS • AIR BRAKES • TACHOGRAPHS



IT PAYS TO SIGN UP!

HERE'S WHY: You get a balanced assortment of top quality brake service products for wide coverage with minimum stock. No large investment is required.

YOU GET backing by national promotion and national advertising. You're identified with "the best known name in brake service"—the line that has customer acceptance second to none!

YOU GET prominent identification. A brilliant electric sign or curb sign; window and door decals; uniform emblems . . . plus sales promotion material to help you build business.

YOU GET regular "inside information" on brake service; a manual that tells how to maintain and repair all modern hydraulic brakes; the "Franchised Dealer Brake Service News" to keep you up to date; ready reference catalog; brake check charts and lined shoe application charts.

YOU GET THE COMPLETE STORY WHEN YOU MAIL THIS COUPON

DON'T DELAY!

Wagner Electric Corporation
6498 PLYMOUTH AVENUE, ST. LOUIS 33, MO., U.S.A.

Please send me Bulletin AU-607 on your Franchised Dealer Program.

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Firm_____

Address_____

City & State_____

WA61-4

ELECTRIC MOTORS • TRANSFORMERS • INDUSTRIAL BRAKES

Exclusive, new HEIN-WERNER Bi-Level Swivel Saddles

provide *two level* lifting for better clearance, contact, and load support.





'55' PACER with Bi-Level Swivel Saddles properly lifts all 1961 cars

For safely raising 1961 cars, Hein-Werner's "55" PACER and "Screwball" have *new* 360° Bi-Level Swivel Saddles with *extra* span and reach needed to correctly lift *every* automobile—compact or standard. No other one-end lifts are as versatile or up-to-date.

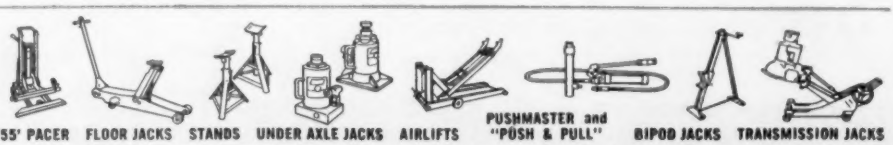
Bi-Level Swivel Saddles eliminate overhang and damage to under-car obstructions adjacent to bumpers, brackets, pads, or frame members. Reduces bumper stress by providing two-point support. Take fuller advantage of available lifting height (up to 33 inches), span (up to 56 inches), and reach (up to 14⅞ inches). Shop-proven "55" PACER also features man-sized lifting rollers that cannot stick or bind; rigid side braces; extra-strong frame members; automatic safety locks at three positions prevent accidental lowering; speedier positioning and spotting using swivel front wheel; extra performance from regular 3-ton Hein-Werner truck jack with overload valve set at 1½ tons capacity.

$124.50 puts a "55" PACER, or $91.45 for the "Screwball"—equipped with Bi-Level Swivel Saddles—to work for you now. See your Hein-Werner Jobber, or write us for full details. 1961 Lifting Chart furnished with every jack.

New Bi-Level Swivel Saddles fit all Hein-Werner "55" and "Screwball" Jacks now in use—only $9.00 a pair!

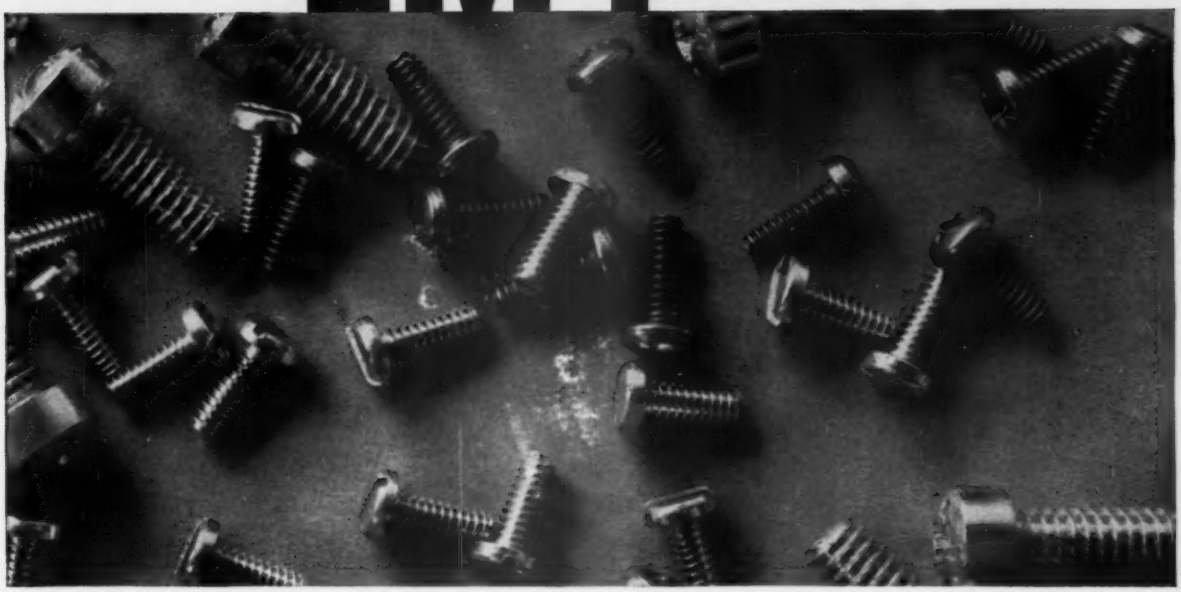
Hein-Werner again is *first* to help you *keep pace* with lifting needs. Bi-Level Saddles are *available now* to modernize any "55" or "Screwball" jack now in use equipped with swivel saddles. Fully interchangeable—requires no special tools—permits change-over in seconds. See your jobber!

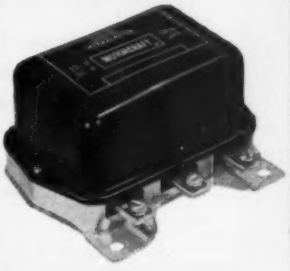
Hein-Werner CORPORATION
WAUKESHA, WISCONSIN



'55' PACER | FLOOR JACKS | STANDS | UNDER AXLE JACKS | AIRLIFTS | PUSHMASTER and "PUSH & PULL" | BIPOD JACKS | TRANSMISSION JACKS

WHO NEEDS 'EM?





PRODUCTS OF
Ford Motor Company

We don't! They're adjustment screws used in many voltage regulators—and after a period of time, road shock and engine vibration may work them loose until factory calibration is changed. The result in many instances: a worn-out generator!

MOTORCRAFT regulators are calibrated by adjusting a metal arm. The position of this arm determines the point at which the contacts close. Thus, factory calibration remains the same . . . no matter how many times your customers drive over bumpy roads.

And for long, corrosion-resistant life, MOTORCRAFT voltage regulators have an exclusive heavy cadmium plating which is applied to all steel parts.

Quality design and engineering like this is typical of all the parts in the fast-moving MOTORCRAFT line.

SERVICE PARTS BY MOTORCRAFT cover a wide range for electrical, ignition and carburetor tune-up and repair jobs, and are available at leading parts suppliers everywhere. To keep your customers' Ford-built vehicles performing at their best . . . *use the highest quality replacement parts available!* MOTORCRAFT parts are built to back up your best work!

QUALITY-BUILT TO PERFORM BETTER....LONGER

A major test—a major triumph!



Grey-Rock Copper-Woven Brake Lining performance proved in Daytona 500!

The first five cars across the finish line in this 500-mile championship stock car race were Grey-Rock-equipped. The linings used were strictly standard Grey-Rock Copper-Woven and Molded combinations. Their quality was exactly the same as the Balanced Brakset Linings sold and installed on passenger cars by Grey-Rock dealers.

New Grey-Rock Copper-Woven linings use fine strands of copper wire to conduct some of the braking heat down into the shoes, where it is dissipated. This helps eliminate fade—gives linings longer service life.

Grey-Rock Balanced Brake Linings let drivers brake down from rocketing speeds of more than 150 mph to a standstill in the shortest possible time, cutting valuable seconds from each pit stop. They drove all-out, confident that their brakes would see them through any emergency.

You can use the proved performance of Grey-Rock Balanced Brake Linings, including Copper-Woven, to increase your brake service business, make more satisfied customers and profit. Grey-Rock Division of Raybestos-Manhattan, Inc., Manheim, Pa.

Only **Grey-Rock®** makes **BALANCED BRAKSET LININGS**

BALANCED BRAKSETS • TRUCKSETS • BRAKE BLOCKS • VEE-LOK® CLUTCH FACINGS • AUTOMATIC TRANSMISSION PARTS

You Can't Buy a Better Brake Lining to Save Your Customer's Life



TEXACO CONSIGNEE GEORGE GILBERTSON, WILLMAR, MINNESOTA

"Our annual gallonage has more than tripled since we went with Texaco 13 years ago. In that time, we moved up from last to first place in this area. The Texaco people have been very helpful. They are really *jobber-minded.* With their help we gained 7 new Dealers in 5 years. Texaco's policies are fair to all. That's why we sell the best... Texaco."

WHY THERE'S A PROMISING FUTURE WITH TEXACO

Here are 6 reasons why Dealers, Consignees and Distributors grow with Texaco.

1. Texaco is jobber-minded. *Proof:* 842 Consignees and Distributors have been with us over 20 years, some over 45 years.
2. The best retailer policy — Texaco helps its Dealers. 22,502 Dealers have been with us for more than 10 years.
3. The best opportunity to cash in on "touring" business—because when Texaco customers are touring they like to stop at Texaco stations when on the road. This means you have more than 40,000 other Texaco Dealers helping you.
4. The best customer credit card — in fact, the only petroleum credit card honored under one sign throughout the entire United States, and in Canada, too.
5. The best national advertising program, year after year... constantly selling Texaco Products and Texaco Dealer service. The best sales promotional material to help build customers.
6. The best petroleum products, known and accepted nation-wide. Continuous research and development insure that Texaco will always have outstanding products.

TUNE IN TO THE TEXACO HUNTLEY-BRINKLEY REPORT — MONDAY THROUGH FRIDAY, NBC-TV

SALES MANAGER, TEXACO INC. MA-5
135 EAST 42nd STREET, NEW YORK 17, N. Y.

I would like to get complete information about the possibility of teaming up with Texaco as a ☐ Distributor ☐ Consignee ☐ Dealer. I understand some investment is required.

NAME_____

STREET_____

CITY_____

STATE_____

PHONE_____

TEXACO INC.

WIX PUTS YOU A STEP AHEAD—

and Gives You the Filter Selling Tools to Keep You Out Front

wix® ·O·MATIC

WIX-O-MATIC is not an "Assortment," "Deal" or "Premium." It's a Scientific System of efficient selling which eliminates the six profit-stealing faults of the uncontrolled stock . . . lost time identifying the *right* filter . . . *not having* a filter when needed . . . having *too many* slow-moving numbers . . . *duplicated stock* of different make filters . . . *guessing* the proper charge for service . . . obsolescent numbers and unsightly display.



YOU GET-

INSTANT IDENTIFICATION — The exclusive WIX DIAL-O-MATIC Cartridge Selector identifies any filter in five seconds.

AUTOMATIC STOCK CONTROL — You can't be out of a number or overstocked — as each sale is made you're automatically reminded to reorder.

GUARANTEED SALE — WIX guarantees that you will sell every WIX Oil or Air Filter you buy when you own a WIX-O-MATIC Wall or Floor Cabinet.

INSTALLATION CHARGE GUIDE — Some filters can be serviced in minutes — others take longer. WIX gives you a realistic guide to the service charge you're entitled to make.

With WIX-O-MATIC you tailor your stock to fit your needs. You get maximum turnover with a minimum investment.

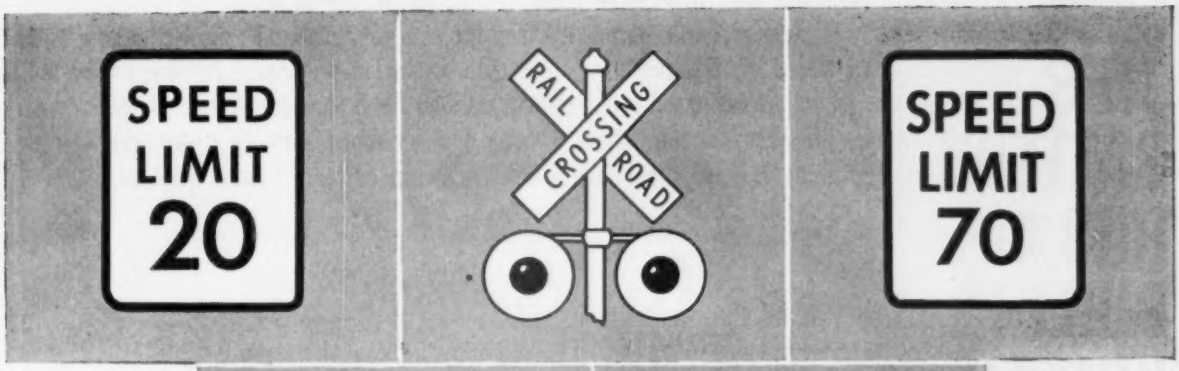
With WIX you're always two steps ahead . . . first, with a superior product that gives you a full profit and . . . second, with a scientific selling system that increases your filter business.

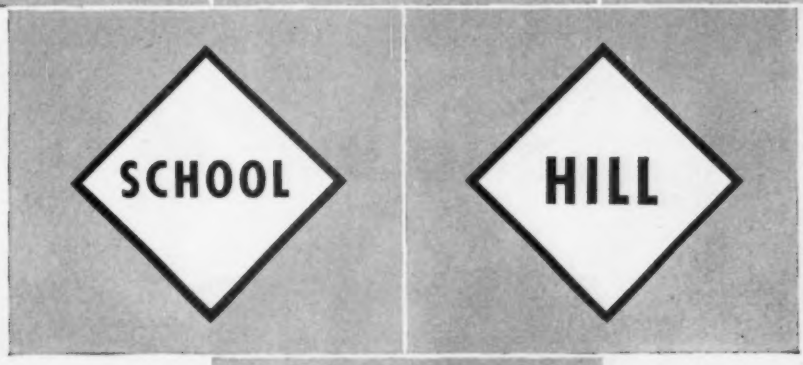
wix® FILTERS

Now, ask your jobber how you can get WIX-O-MATIC FREE!

WIX CORPORATION
GASTONIA • N. C.
In Canada: Wix Corporation Ltd., Toronto
In New Zealand: Wix Corporation New Zealand Ltd., Auckland

Signs of Extra Profits







The plugs that adapt to every driving condition

ROBERT BOSCH

thermo-elastic

SPARK PLUGS

Adaptability to the driving condition *of the moment!* It's yours in the thermo-elastic plug—the heavy duty *performance* plug that prevents pre-ignition, fouling, loss of power—brings you more profit per plug. Original equipment on best-selling imports. Ideal for all domestic applications as well.

Write for details: ROBERT BOSCH CORPORATION
40-25 Crescent St., Long Island City 1, N.Y. 225 Seventh St., San Francisco, Calif.

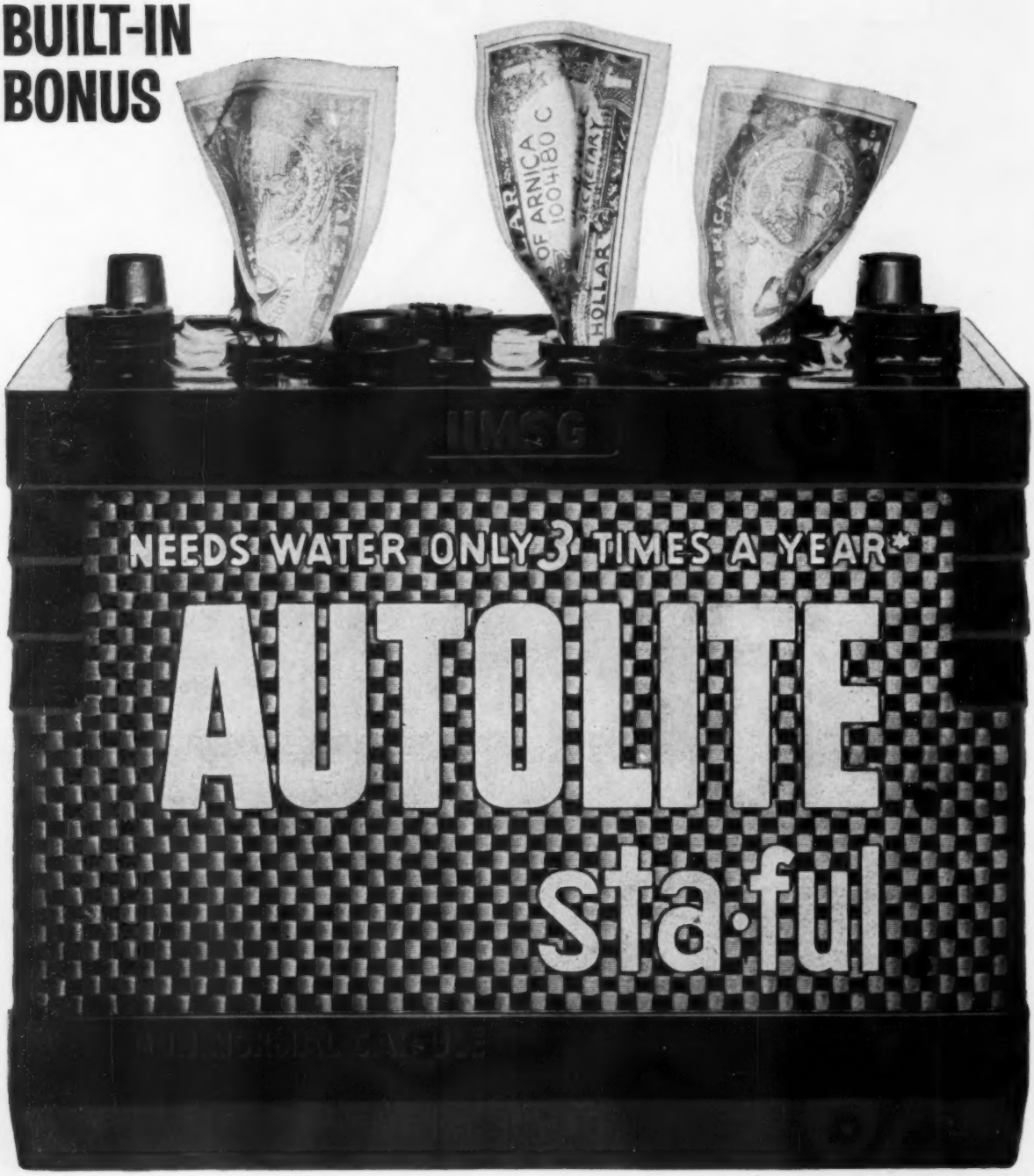
ROBERT BOSCH
PUTS THE
POW IN POWER

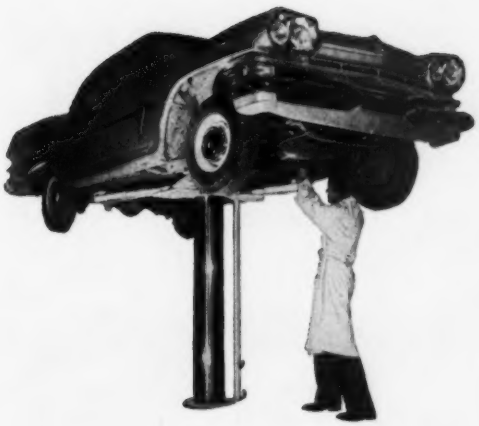
The ROBERT BOSCH name also identifies the best in ignition, lighting and starting equipment, electric wipers, coils, horns, regulators, fuel injection systems and other fine products.

A two-part built-in bonus that makes the Autolite sta-ful a premium battery at an ordinary price. Part one is in the name . . . sta-ful. It stays full. Has up to three times greater liquid reserve above the plates than other batteries. Needs water only three times a year in normal car use. Protects your customers against battery failure.

THIS BATTERY HAS A BUILT-IN BONUS

Second, it's a pre-tested dry charge battery. The only pre-tested dry charge battery. Pre-tested to protect you against embarrassing activation difficulties. Sell the premium battery with the ordinary price tag . . . the battery with the built-in bonus. Autolite sta-ful. You can't go wrong. But you might have to buy a bigger money clip. That ok with you?





FOR SERVICE AND PROFIT USE A

GLOBE

Frame-Kontact®

HOIST

SAFETY CHECK LIST

Oil Change
- OIL FILTER
- BRAKE FLUID

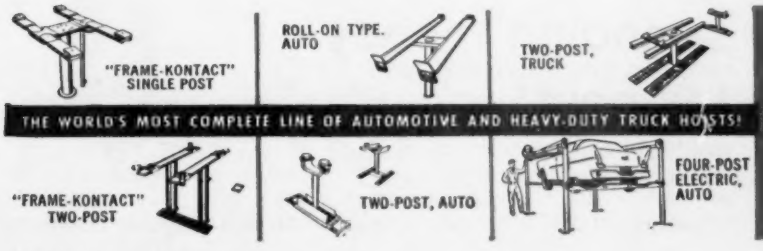
Lubrication
- TRANSMISSION
- DIFFERENTIAL
- WHEEL BEARINGS
- SPRINGS
- KING PINS & BUSHINGS
- TIE RODS
- UNIVERSAL JOINTS

Service
- OIL FILTER
- WHEEL BEARINGS
- MUFFLERS
- EXHAUST PIPE
- TAIL PIPE
- RESONATORS
- HEADERS
- GAS TANK
- TIRE REPAIR
- LOWER RADIATOR HOSE
- UNIVERSAL JOINTS
- HUB CAP REPLACEMENT
- EXHAUST CLAMPS
- CHAIN INSTALLATION AND REMOVAL
- TIRE ROTATION
- SHOCK ABSORBERS
- SHACKLES
- SPRINGS
- WHEEL BALANCING
- TIE RODS
- STARTERS
- FUEL PUMP
- FUEL LINE
- DIFFERENTIAL
- INSULATION
- INSPECTION
- ELECTRICAL SYSTEM
- GENERAL INSPECTION
- UNDER COATING
- CRANK CASE
- BRAKE LINES
- WASH AND POLISH
- WIRING
- BODY BOLTS
- TRANSMISSION
- BRAKE ADJUSTMENT
- SNOW TIRE INSTALLATION AND REMOVAL

For profit, sell *safety* through periodic inspection and maintenance. This requires lifting cars on a Hoist . . . because three out of four service jobs are accessible only from below the car.

And Globe Hoists (FS-10 single post and FS-27 two post) have unmatched superiorities for both lubrication and service. They get cars up faster, provide greater accessibility. Full rotating 3-position pads, mounted on long-sleeved, easy swiveling arms reach specified pick-up points for *all* cars . . . with nearly 20% extra reach to cover future needs.

For complete data on Globe Frame-Kontact Hoists, write to Globe Hoist Company, East Mermaid Lane at Queen Street, Philadelphia 18, Penna.



GLOBE
THE BEST LIFT
HOISTS
PLANTS: PHILADELPHIA • LONG BEACH, CALIF.

HURRY! ONLY A

CHAMPION'S BIG CONTEST CLOSES MAY 31ST!

Last opportunity to win your own airliner and crew for 2 weeks— plus $5,000 spending money! All tax-paid!



CHAMPION SPARK PLUG COMPANY

FEW DAYS LEFT!



This can be yours for 2 weeks! Plan your own trip—anywhere in North America! See the places you've always wanted to see! Take along your family and friends—up to 12 people in all!

1,159 OTHER VALUABLE PRIZES



COMET 2-DOOR SEDAN
Equipped with heater, whitewall tires.



FALCON TUDOR SEDAN
Equipped with heater, whitewall tires.



LARK 2-DOOR SEDAN
Equipped with heater, whitewall tires.



RAMBLER AMERICAN 2-DOOR SEDAN
Equipped with heater, whitewall tires.



2 LONE STAR 15-FT. RUNABOUTS
With trailer, up-to-40 hp outboard motor.



12 STROMBERG-CARLSON CONSOLES
Stereo hi-fi phono, AM-FM radio.



35 BELL & HOWELL MOVIE CAMERAS
8 mm., automatic electric eye.



156 EVANS BICYCLES
Interceptor 300 model, boy's or girl's styles.



250 COLEMAN CAMP STOVES
Lightweight, clean-burning, durable.



700 COLEMAN PICNIC COOLERS
Well-insulated, lightweight.

DEPENDABLE
CHAMPION
SPARK PLUGS
TOLEDO 1, OHIO

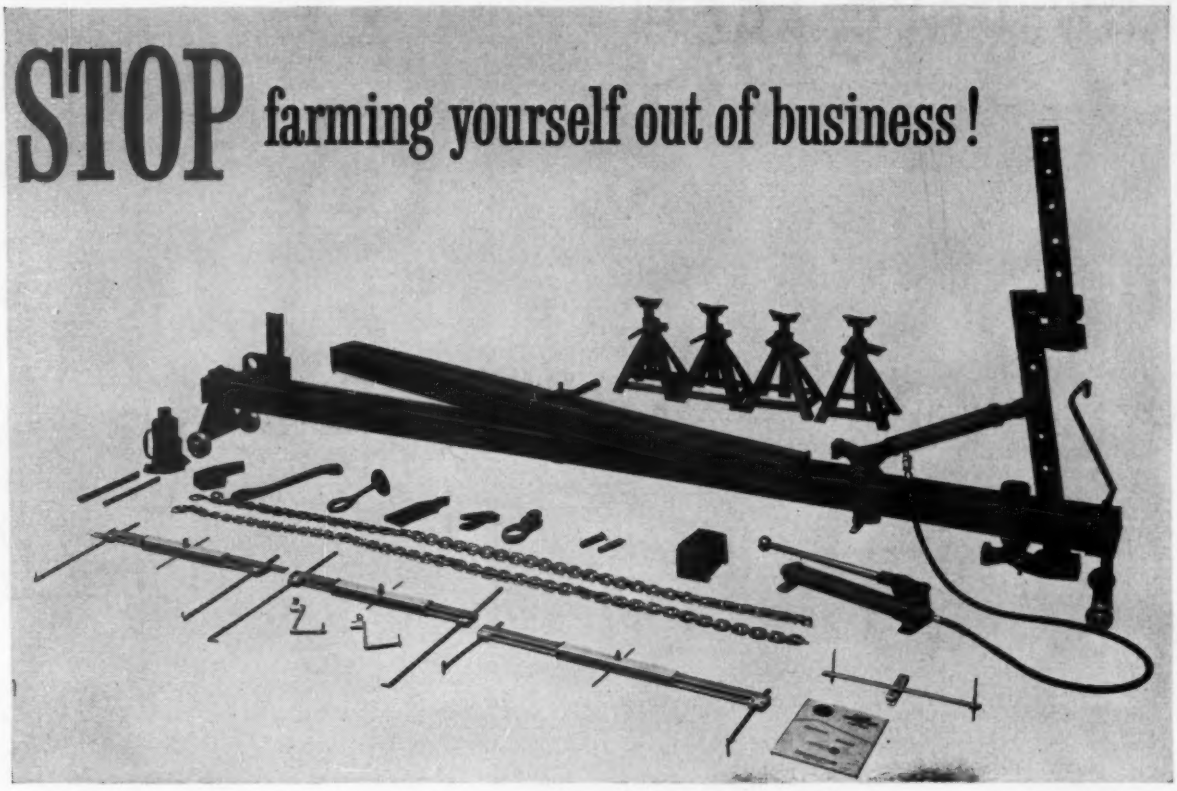
URGE EVERY CUSTOMER TO ENTER!

Keep using the helpful hints on Pages 10 and 11 of your plans book to improve your customers' (and your own) opportunities of winning. Remember—the more entries you certify, the better the odds are for you!

HURRY! TIME IS RUNNING OUT!

This contest closes May 31. By then, 1,160 lucky motorists will each have won a valuable prize. And 1,160 identical prizes will be awarded to the certifying dealers. So hurry! It's your chance of a lifetime!

STOP farming yourself out of business!



Keep all your service profits with a new

John BEAN BODY-FRAME ALIGNER

Unless you can handle body-frame repair on unitized-construction care, you're farming important profit dollars right down the street to your competitors.

Get Smart! Keep that business right in your shop with the new John Bean Portable Body-Frame Aligner. This is the *only* compact, mobile, economical unit which pushes and pulls . . . works over the top, underneath, inside and outside . . . gives squeezing, spreading, stretching action in horizontal or vertical planes. Tools and power units anchor anywhere on exclusive dual tubular main beam or lateral twist beam to give body pushes or pulls at heights up to 75 inches!

These are musts for fewer and faster hook-ups and complete versatility needed for profitable unitized and conventional body-frame work. Regardless of your space, budget or manpower limitations, you can modernize your present facilities with a John Bean Portable Body-Frame Aligner. There is a wide selection of models and groups, tools and gauges to bring any shop up-to-date.

models from

$481.00

f.o.b. Lansing

Includes installation and training in use of equipment.

FREE CATALOG

Contact your John Bean jobber or write for free Catalog L-1722.

John BEAN®

DIVISION OF
FOOD MACHINERY AND CHEMICAL CORPORATION
LANSING, MICHIGAN

fmc®

JOBBER EXECUTIVE EDITION

Thoughts on Credit and Collections

A digest of ideas brought out at the A.S.I.A. Young Executives Forum



There are several approaches to the subject of credit and collections which are available to the wholesaler . . . (1) he can be easy on credit, and tough on collection; (2) or tough on credit and easy on collections; or (3) a combination of these. If you have too little losses, then it may be that your credit is too tight and you are losing business. If credit is too easy, then bad debt losses can increase dangerously.

One wholesaler stated that it is highly important that management—or, preferably, the salesman—get out and personally talk to the delinquent account. A simple but effective method. The company should have the "guts" to ask for money that is owing to it.

Another wholesaler stated that his salesmen are paid on a combination salary-commission, but that no commission is paid until the order is paid for by the account. There is another benefit to this procedure in that the salesmen are not tempted to over-sell.

Every Saturday the credit manager gives each salesman a copy of his customers' accounts. Without this information, the salesmen have no way of knowing the exact status of their customers' credit.

A salesman does not have the authority to open an account by himself, stated one wholesaler—it first must be cleared through the office.

One company's accounts are set up for collection on a 30–60–90 day basis . . . if unpaid at the end of 30 days, nothing is done except to "remind" the customer; after 60 days the customer's account is charged a 1% interest charge on the amount owing for 60 days; after 90 days, the account goes on COD.

A spot survey among those present indicated about 40% to 50% apply a "service charge" to accounts after a determined period. Although a 1% service

Continued on page V

Their Machine Shop, Jobber's Number 1 Customer



Machinist points to crack that was disclosed by Magnafluxing.



Expert machinist is shown working at align boring machine.

MOUNTJOY Auto Jobbers, San Antonio, Texas, who operate a complete machine shop in conjunction, hold their major parts customer in the palm of their hand.

"I give them better than $10,000.00 a month business," said V. C. "Vic" Bates, shop foreman. "And I pay my bills promptly. How's about that?"

Form Partnership

Mel Mountjoy, who with his father, Corey Mountjoy, own and operate the business, added: "Our shop is operated at a profit. We couldn't possibly keep it going on the profit from parts alone."

The machine shop, equipped as it is, represents an investment exceeding $100,000. "And we have to keep buying new equipment, replacing the old; and supplies becomes quite an item, too," said Mel.

Big Investment

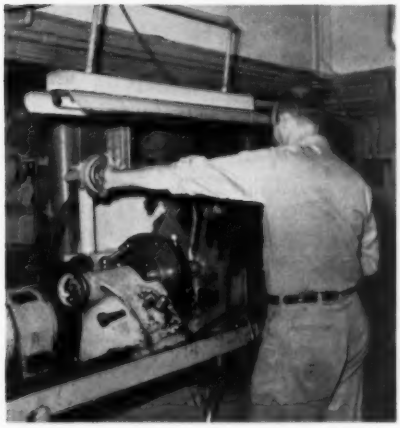
Their Magnafluxing machine represents an investment of some $6,000. "But we couldn't, nor wouldn't think twice, trying to operate without one," said the shop foreman. "It's a business-getter, it provides cheap insurance for our customers, and it protects our own reputation. And with all those advantages, it still has to be sold to the customer the first time."

Paradoxically, Magnafluxing works for and against the shop. Recently, one of the major bus companies, for the first time, sent over a crank-

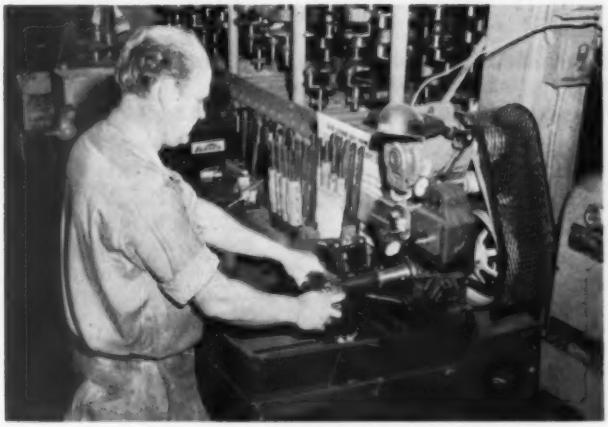
A profitable way of uncovering customer problems that leads to increased parts sales



Machinist sets up an industrial crankshaft on the crankshaft grinder reserved for these king size shafts.



Grinding a smaller size crankshaft is an everyday operation.



Shop's new rod conditioning machine. Machine shop advertises this work to all fleet accounts.

shaft to be ground. The shop foreman wouldn't touch it without Magnafluxing it first. Magnafluxing crankshafts, depending on their size, runs from $5.00 to $15.00. While the bus company thought it superfluous, they gave the go-ahead. The shaft was dangerously cracked. Consequently, the shop lost a shaft grinding job. "But since then," said the shop foreman, "we have been getting all their machine shop work, with specific instructions to Magnaflux every metal part."

Parts Magnafluxed

Incidentally, this shop Magnafluxes every metal part involved in their engine rebuilding jobs.

Continued on page VII

Mountjoys give free pick up and delivery service. This engine is being brought into the shop.



THE PULSE OF AUTOMOTIVE BUSINESS

Automotive Wholesaler's Sales and Inventories

Data from the Bureau of the Census, Dept. of Commerce

Region	Per Cent Change in Sales: Feb. 1961 from Feb. 1960	Sales: Feb. 1961 from Jan. 1961	Sales: 2 Mos. 1961 from 2 Mos. 1960	Inventories: Feb. 1961 from Feb. 1960	Inventories: Feb. 1961 from Jan. 1961
New England	+7	−12	+6	+6	+5
Middle Atlantic	+1	−9	+5	+4	−1
East North Central	−8	−5	−3	−3	+1
West North Central	+4	0	0	+1	+4
South Atlantic	+1	−9	+6	+2	−1
East South Central	+4	−2	+2	+2	+3
West South Central	−3	−6	+2	−1	0
Mountain	−2	−3	−1	+2	+1
Pacific	−14	−9	−2	+5	−3
United States	−3	−7	+1	+2	+1

Monthly Sales of Automotive Jobbers incl., Tire and Tube Wholesalers*

All Data Are in Millions of Dollars

Month	1961	1960†	Per Cent Change
Jan.	$ 428	$ 403	+9.36
Feb.	400	414	−3.38
Mar.	...	...	...
Apr.	...	...	...
May	...	...	...
June	...	...	...
July	...	...	...
Aug.	...	...	...
Sept.	...	...	...
Oct.	...	...	...
Nov.	...	...	...
Dec.	...	...	...
Total—12 Months	...	...	...
Total—2 Months	$ 828	$ 817	+1.35

Monthly Sales of Franchised Car Dealers*

All Data Are in Millions of Dollars

Month	1961	1960†	Per Cent Change
Jan.	$ 2,241	$ 2,578	−13.07
Feb.	2,159	2,670	−19.14
Mar.	...	3,039	...
Apr.	...	3,119	...
May	...	3,054	...
June	...	3,015	...
July	...	2,468	...
Aug.	...	2,616	...
Sept.	...	2,324	...
Oct.	...	2,688	...
Nov.	...	2,633	...
Dec.	...	2,437	...
Total—12 Months	...	$32,701	...
Total—2 Months	$ 4,400	$ 5,248	−16.2

Monthly Sales of Gasoline Service Stations*

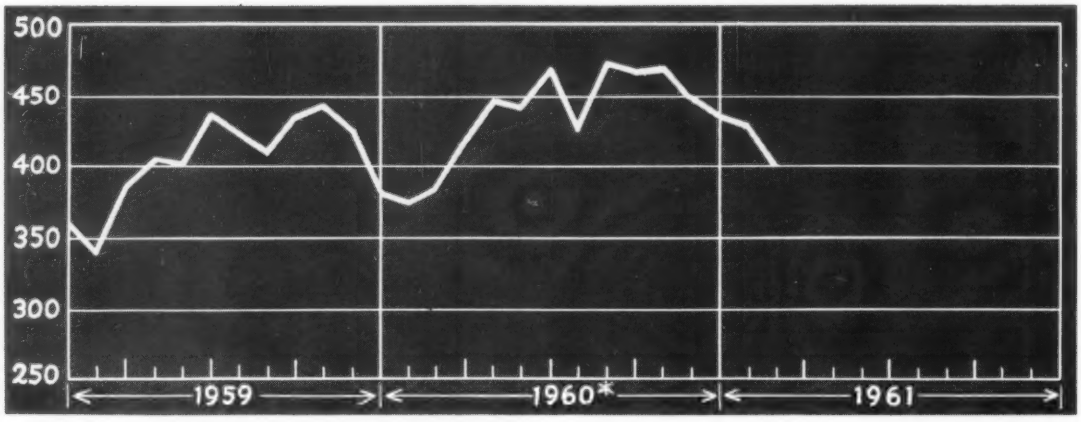
All Data Are in Millions of Dollars

Month	1961	1960†	Per Cent Change
Jan.	$ 1,381	$ 1,356	+1.84
Feb.	1,277	1,285	−0.70
Mar.	...	1,387	...
Apr.	...	1,457	...
May	...	1,489	...
June	...	1,524	...
July	...	1,587	...
Aug.	...	1,568	...
Sept.	...	1,470	...
Oct.	...	1,505	...
Nov.	...	1,455	...
Dec.	...	1,511	...
Total—12 Months	...	$17,594	...
Total—2 Months	$ 2,658	$ 2,641	+0.64

* Estimated by the Bureau of the Census. † Subject to revision due to new sample.

MONTHLY SALES OF AUTOMOTIVE WHOLESALERS— INCLUDING TIRE AND TUBE WHOLESALERS

(All Data in Millions of Dollars)



* 1960 data are subject to revision due to a new sample based on 1958 Census of Business.

Thoughts on Credit, Collections

Continued from page I

charge was the most popular, some charged less, and others went as high as 1½ per cent.

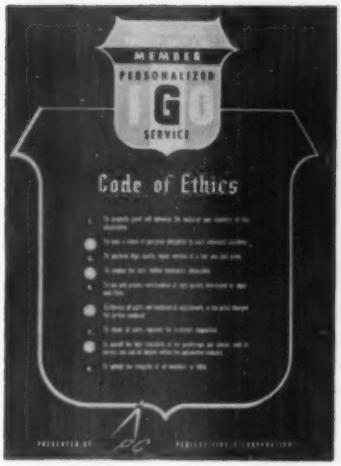
One wholesaler stated that they have found that some of their accounts—smaller repair shops, as an example—find it easier to pay their invoices on a weekly basis, rather than monthly. The salesmen get their breakdown of their customers' accounts each Saturday and attempt to clear up this type of account on a weekly basis.

Trade acceptances are widely used—especially on equipment purchases—when a good account begins getting very past due. Many times the customer is agreeable to signing a note to the wholesaler on some physical asset, rather than be put on a COD basis for all his merchandise needs.

Often the account will be more willing to sign a bank note at the bank's rate of interest on the delinquent portion. Moreover, the account is apt to pay the bank more readily than the wholesaler.

It was agreed that the most important "writing on the wall" on a customer is when he misses taking the 2% cash discount for prompt payment. It is a good indicator, and if he misses, start watching the account very closely.

What if a customer takes the 2% discount even though his check was very late? Most wholesalers agreed that if it was a valued account they would allow it. One commented that when the customer does this, they make a point to inform him that his check was actually late for taking advantage of the prompt payment discount—but "we're going to allow it this time."

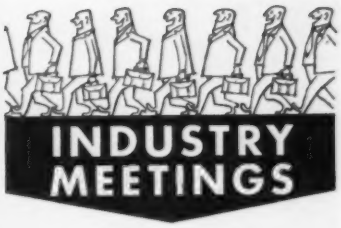


Pictured is the first plaque presented to Ralph James of IGOA by Perfect Circle Corporation's sales promotion manager, Clifford G. Storey. Perfect Circle is making these plaques available to all IGOA members. The plaques will be mailed to state officers for presentation to their members shortly.

Manufacturers Urged to End Premium Programs

In a sharply worded resolution directed to all industry manufacturers, A.S.I.A. urged all automotive manufacturers to immediately discontinue premium programs and give-away deals as a marketing incentive in their sales to wholesale customers.

J. A. Bryant, A.S.I.A. President stated, "The hue and cry from wholesalers and their customers is for a return to product selling. Premiums are costly to manufacturers and that cost is passed along to wholesalers in one form or another. Over and above that is the skyrocketing administrative costs to wholesalers, and the detrimental effect on sales of other product lines when the wholesaler's salesmen push 'Today's Special!'"



May 14–17—Automotive Engine Rebuilders Assn. Convention, Fontainebleau Hotel, Miami Beach, Fla.

May 22–25—Annual Spring Meeting, Automotive Advertisers Council, The Homestead, Hot Springs, Va.

June 4–6—North Carolina Automotive Wholesalers Convention, Grove Park Inn, Asheville, N.C.

June 15–17—IGO of California Annual Convention, El Dorado Hotel, Sacramento, Calif.

June 28–July 1—IGOA Annual Convention, Lowry Hotel, St. Paul, Minn.

July 23–28—National Congress of Petroleum Retailers, Inc., 15th Annual Session, Cosmopolitan Hotel, Denver, Colo.

Oct. 10—Automotive Parts Rebuilders Assn., Convention & Trade Show, Conrad Hilton Hotel, Chicago, Ill.

Nov. 8–10—Automotive Parts Rebuilders Assn., Convention & Trade Show, Hotel Biltmore, Los Angeles, Calif.

Feb. 3–7, 1962—National Automobile Dealers Association Convention & Exhibition, Convention Hall, Atlantic City, N.J.

Feb. 28–Mar. 3—International Automotive Service Industries Show, Navy Pier, Chicago, Illinois.

Import Tune-Up Charts Now Available from AEA

The Automotive Electric Association announces that it has released its 1960 Import Car Tune-Up Charts.



G. W. Brown, president of Wagner Electric Corporation, addresses Midwest area Parts and Accessories Branch Managers and Salesmen at a meeting to kick-off the nationwide "Win-With-Wagner" Sales Campaign, which will run from May 1 through July 31.



Al Kayes of Ohio (2nd from right) is all smiles as he receives Signal-Stat's "Sales Representative of The Year" Award from W. A. Raftery, the firm's Vice President of Marketing. Mrs. Kayes and T. D. Cogan, Sales Manager-Aftermarket Sales look on.



Ed Dailey (left), Assistant to the Vice President in charge of Sales, Fram Corporation, receives the Dealer Incentive Plan Award of the Premium Industries Club, from Randy Tobut, Chairman of the club's 1961 Awards Committee. Fram won the award for their Million $$$ Giveaway Program.

A.S.I.A. Board Members to Meet With Oil Companies

The Board of Directors of A.S.I.A. has authorized a series of visitations with officials of major oil companies in an effort to reach an agreement with respect to a freedom of choice on the part of the service station operator in his TBA purchases.



Earl R. Fiene's appointment as vice president and director of sales for The Electric Autolite Company has been announced by Robert H. Davies, President. Mr. Fiene, who has most recently been directing automotive original equipment sales, will direct all sales efforts of the company in the automotive replacement and original equipment fields.

Black and Decker Acquires Majority Interest in French Firm

The Black and Decker Manufacturing Company has acquired a major interest in SOCOMEDA (Societe de Constructions Mecaniques du Dauphine) of Lyon, France, a manufacturer and marketer of a diversified line of portable electric tools in the French and European markets.

Robert D. Black, chairman of the board of Black and Decker stated that the acquisition was made to strengthen Black and Decker's position in the European markets.

A.S.I.A. Young Executives Compete

"How to Insure Company Growth through Personnel Development" has been selected as the theme for 2,500 word essays to be submitted by wholesaler and warehouse distributor members of the Young Executive Forum of the A.S.I.A. in a Forum-sponsored essay contest.

Contestants will be competing for two scholarships to the 1961 A.S.I.A. Automotive Wholesalers' Top Management Institute. It will be held at the University of Illinois, May 14–19. The two winners will also receive $50.00 in cash.

A similar contest will be held later in the year for manufacturer and rebuilder members.



Completing negotiations for the acquisition by Perfect Circle Corporation of an interest in Floquet-Monopole, S.A., are William B. Prosser (left), PC president; Jean de Montremy director general of the French firm, and W. J. Platka, Jr. (standing) PC vice president, international operations.

Pictured below, are two semi-tractors which delivered over $100,000 worth of engine and chassis parts to the main warehouse of Arnold Motor Supply in Spencer, Iowa. This shipment, the largest of its kind ever made in this part of the country, launched Arnold Motor Supply as a jobber for Aluminum Industries' Permite Preferred line.





E. P. Arnold

The company, headed by E. P. Arnold, operates 10 jobber stores throughout northern Iowa and southwestern Minnesota. Mr. Arnold has 20 partners, all active in the business. Ten of them are store managers, who work on salary, commission, and a share of the annual dividends. The organization has made tremendous progress since 1927 when Arnold began wholesaling automotive parts from a 20′ × 40′ store, driving his first truck on a route covering a radius of about 30 miles around Spencer. Today, they have a large, new warehouse where stocks are maintained to service the 10 jobbing stores.

Machine Shop . . . .

Continued from page III

As much as 85 per cent of the shop's work is on industrial engines. "Between 5 and 10 per cent of the metal parts tested are found faulty. Replacing a cracked crankshaft could easily tear up a $10,000 engine."

The shop, also, boasts a crankshaft straightening machine. "Before grinding, and if the shaft is not bent too much—not over 30/1,000, we pull it back to 2/1,000 in order to keep it in balance. An unbalanced crankshaft will set up its own vibration and cause it to snap."

Mountjoy, like most other parts jobbers with a machine shop, encountered a major problem. They just couldn't get their parts salesmen to function as solicitors for their machine shop.

"A parts salesman," said Mel Mountjoy," just can't sell a service he doesn't understand. They are afraid to discuss it for fear they'll be found out. Consequently, they take what's dumped in their lap, and let it go at that.

"To acquaint them with our machine shop, our shop foreman volunteered to conduct tours through the shop and explain just what goes on, and how various pieces of equipment work. It's important that the salesmen watch a certain job from beginning to end, so they will appreciate the time factor. Half enough information is worse than none at all. A half-smart salesman defeats himself, and his firm. By taking the schooling systematically, and not trying to rush it, is paying off."

The bulk of this shop's business is complete engine rebuilding. "Industrial engines," Mel emphasized. "And we are looking forward to doubling the capacity of our machine shop within the very near future. The odd jobs we turn out for our customers go a long way in keeping them our regular customers. Our machine shop, directly and indirectly, is what feeds our parts department."

Motor Age's

WHO'S WHO

Recent Appointments



William O. Merritt—as advertising and sales promotion manager for the Clayton Manufacturing Company.

Arthur Kreager— as the district sales manager for West Virginia and Western Pennsylvania for the Tool and Equipment Division of the Owatonna Tool Company.



John L. Dole, Jr.—as secretary by the Board of Directors of the Dole Valve Company.

A. V. Moroz—as Farm and Ranch Division sales manager at Thor Power Tool Company's Speedway Manufacturing Company.

John B. Dempsey—as manager of Silver Line electric and automotive tool sales for the Thor Power Tool Company.



James J. Keyes—as the general sales manager of the New Britain Machine Company's Hand Tool Division.

F. L. Bredimus—as vice president, sales and **C. H. Godschall**—as vice president, manufacturing for the Symington Wayne Corporation.

Peter B. Wayman—as Miami district manager of the Black & Decker's industrial-automotive division.



Harold J. McCormick — as manager of advertising and sales promotion for B. F. Goodrich Tire Company.

Otto Schellenberger—as division manager of industrial sales for the Thor Power Tool Company.

W. E. Moberly—as assistant sales manager for the Bowes "Seal Fast" Corporation. He also serves as general manager of Bowes Auto Supply, a Bowes subsidiary.

E. R. Locke—appointed sales representative in Pittsburgh district of Black & Decker's industrial-automotive sales division.

Frederick Bissinger—as the president of Industrial Rayon Corporation, Cleveland, Ohio, has been elected president of Tyrex, Inc., an association of Tyrex rayon tire cord produecrs.

Robert R. Allen—to the newly created position of marketing manager of the Fabrics and Finishes Department of Du Pont's Finishes Division.



C. M. (Pat) Barnes — as president of the Dayton Tire and Rubber Company, a newly organized subsidiary corporation of the Firestone Tire and Rubber Company.

John H. Graves—as assistant to the manager, automotive division, Standard-Thomson Corporation.



Kenneth MacCormac — as Crescent Company's Market research manager.

Norman H. Peterson—as assistant to the president of the Timken Roller Bearing Company.



Merle Crandall—as treasurer of Kent-Moore Organization, Inc.

Norman Currin—as controller of the Bower Roller Bearing Division of Federal-Mogul-Bower Bearings, Inc.



Douglas Mueller—as director of public relations and advertising for the Borg-Warner Corporation.

John H. Fellows—as advertising manager of the Timken Roller Bearing Company.

Howard R. Golden—as zone manager for Bowes "Seal Fast" Corporation.



John S. French—as the general manager of the newly formed Motorcraft Division of the Ford Motor Company. The new division will include the replacement parts marketing organization recently acquired from the Electric Autolite Company.

MOTOR AGE Newscoop

1962 Models Coming
Buick's Compact Skylark
12-12 Warranties
Plymouth's Comeback

Alternators Up Coming
Bucks From Trucks
Electric Cars Tested

In the days ahead . . . . HERE'S WHAT TO LOOK FOR ! ! !

(Items gathered and edited by Ed Janicki, Bill Montgomery and Neil Regeimbal)

1962 Models May Come Earlier

IN LESS THAN FOUR MONTHS, the first 1962 car will be making its debut.... While still unofficial, it's expected that the first 1962 model will be introduced in mid-September.... Last year all cars hit the showrooms during October and later.

Car makers don't expect a boom year for 1961 models so they're pushing plans to get the 1962s out a little earlier to give the economy a boost .... They're not planning radical changes, but some eye-catching designs will emerge which should whet the public appetite.

More Plymouth Trouble Shooting Contests

PLYMOUTH'S TROUBLE SHOOTING CONTESTS are snowballing.... Program, designed to interest high school and junior college students in mechanics' training, has now spread to schools in 35 areas around country.... Last year, Plymouth held only 20 such contests.

Program has become so popular that schools are now promoting it among themselves.... Last year, some 700 students participated in program.... About 1000 are expected to be in the program this year.... Students compete with each other by diagnosing and correcting mechanical failures put in car deliberately.

Plymouth hopes to make a national event out of the whole thing.... Each year an annual contest would be held in Detroit with prizes going to winners.... Plymouth notes that about 75 per cent of students who participate in program eventually end up in some form of automotive work.

To Produce 10,000 Skylarks

BUICK WILL LIMIT PRODUCTION of its new compact Skylark to 10,000 units for this year.... Sports-type car, scheduled in dealer showrooms in mid-May, carries a retail price of $2621, or about $100 more than the deluxe four-door sedan.... Price of options, including a special vinyl-covered roof, jacks car up to well over $3000.

Confusion Dispelled on 12-12

CONFUSION ABOUT NEW 12-12 WARRANTIES has subsided somewhat.... Car companies and dealers have whole thing pretty much under control now.... Factories have rewritten many of their warranties to spell out more clearly what is not covered.

There's a trend, too, in factory ads to tone down on rash statements .... Instead of telling about items which are covered by warranties, ads now stress those which are not covered, and considered "normal owner maintenance."

You'll be hearing more about new warranty plans next year.... Some owners may not like it.... But here's what car companies have in mind for next year: to make every customer sign a special affidavit to make certain that he fully understands what's in the warranty.

"Infant Mortality" Down

BUICK SERVICE OUTLETS should have fewer complaints from owners.... Under new reliability program, Buick division has reduced what it calls "infant mortality" by more than 50 per cent in 1960.... Number of malfunctions reported by dealers for 1961 models have been below that, according to Buick's General Manager Ed Rollert.

Just what is "infant mortality"? Buick describes it as malfunction or maladjustment of a part that sends a new car customer back to dealer for repairs a few days after delivery.... At its plant in Flint, Buick devotes nearly an entire floor to reliability and control tests to catch these errors before car gets shipped.

Plymouth's Comeback

PLYMOUTH FIGHTS BACK to win larger share of Chrysler Corp. market.... Although comeback is slow, it has been making slight nips here and there .... During first quarter of this year, Plymouth's share of corporate auto pie edged up to 49.7 per cent from 48.5 per cent during 1960.... But it still has a bit of road to plow to reach 57 per cent share it held in 1959.

Alternators Up Coming

ALTERNATORS ARE EXPECTED to become standard equipment on most cars by 1963.... General Motors reportedly may swing to them next year.... Ford will follow.... Chrysler is only company offering alternators at present.... As you know, alternators replace the conventional DC generator.... Alternator, unlike the DC generator, produces considerable electrical power at low engine speeds and at idle.... At same time, it charges battery, keeping it strong.

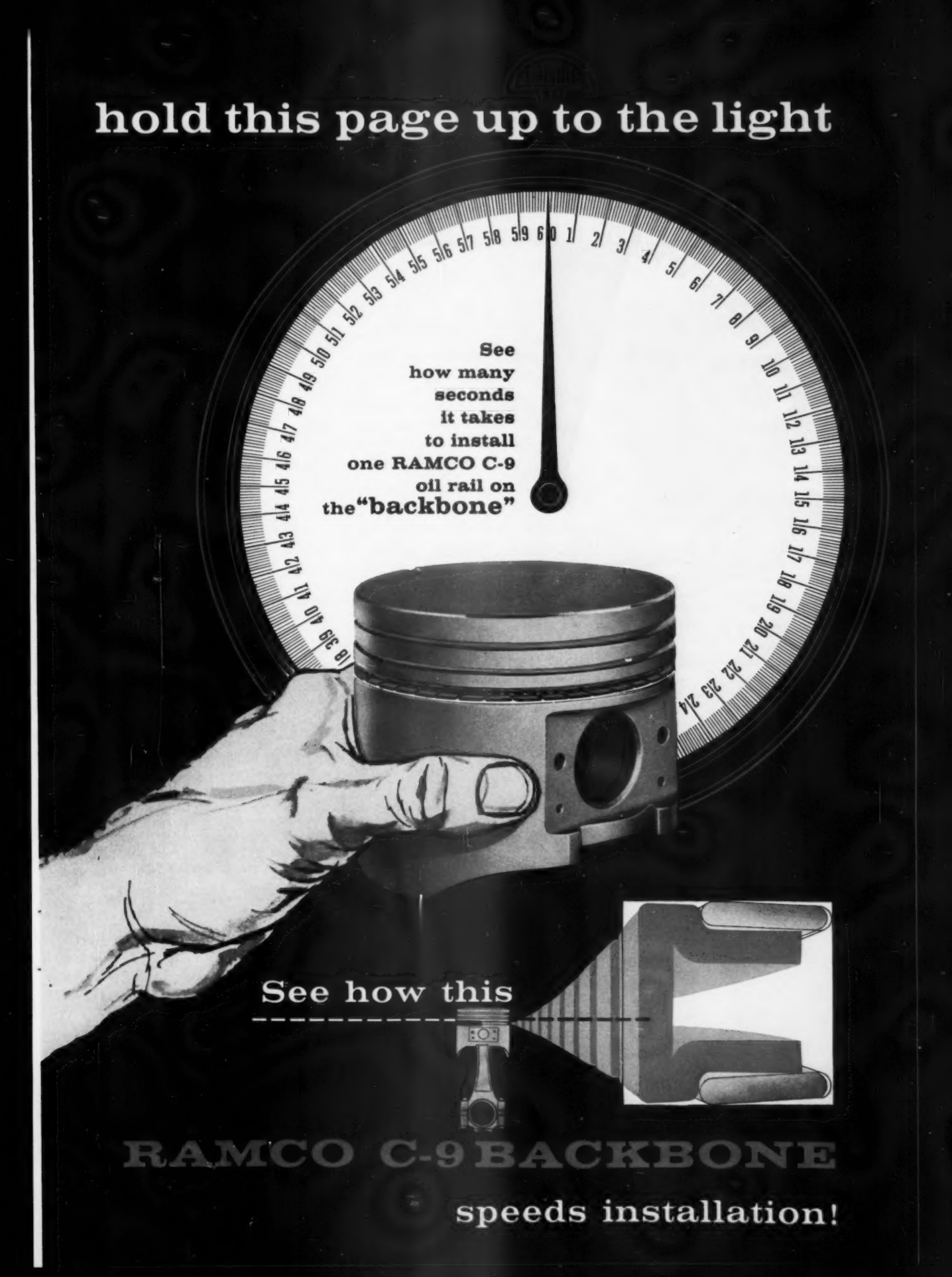
Replacement Parts Sales Up

REPLACEMENT PARTS SALES are edging upward.... Last year sales reached $2.375 million (wholesale value) compared with $2.263 million during 1959....Figures come from the Automobile Manufacturers Assn. and are based on federal excise tax receipts.

AMA, incidentally, notes that 22 per cent of all retail sales last year were automotive, totalling $45 billion.... Total automotive retail, wholesale and connected service business receipts exceeded $93.5 billion, or 18 per cent of all such business activity in country.

Continued on page 60

hold this page up to the light



RAMCO C-9 BACKBONE

speeds installation!



There *is* a difference in modern, self-expanding oil rings . . . especially in the Ramco C-9.

The difference we speak of here is what we call the "backbone." It can save you installation time. How?

Because we made the C-9 backbone thicker, sturdier, shorter. That meant we could use *less* expander length (over-diameter) to establish ideal wall pressure.

So: rails "click" into position easier against the backbone's big shoulders, because they have less expander to "go around." There's less chance for them to slip off, less chance of "overlap." That saves you time.

Next time you install a Ramco C-9, look for this difference. Feel the strength, note the shorter length. Note how fast it installed. And when you're done, watch the performance. It works.

the backbone *makes the* difference



Fast installation is only one of the many differences the Ramco backbone brings you. They are all described in our folder: "BACKBONE FACTS." See your Ramco Jobber, or write for your free copy:
RAMSEY CORPORATION, ST. LOUIS 6, MISSOURI
a subsidiary of Thompson Ramo Wooldridge Inc.

RAMCO MODERN POWER PISTON RINGS

G-1785 Copyright 1961 Ramsey Corporation

FOR THE RECORD ★ ★ ★

New Minimum Wage

Most workers in automotive trades are exempt from the new $1.25 an hour minimum wage. Car dealers retained blanket exemption. Repair shops must take in more than $1 million a year ($250,000 if part of a $1 million chain.) Gasoline stations must gross $250,000 a year before they have to pay the minimum wage and are exempt from overtime.

Ford Buys Autolite Interest

With the payment of $28,000,000 in cash, the Ford Motor Company purchased two parts manufacturing plants and "certain other assets" of the Electric Autolite Company.

The two plants, which Ford will continue to operate, are a battery plant at Owosso, Michigan, and a spark plug plant at Fostoria, Ohio.

The companies have also entered into an agreement whereby Autolite will sell a substantial volume of parts to Ford.

Included in the purchase by Ford are certain patents and license rights and the right to the trade name "Autolite." The Electric Autolite Company will continue to manufacture and market their products under their trade names of "Rebat" and "Prest-O-Lite" or under trade names owned by its customers.

Reuther for Workers' Salaries

Walter Reuther, president of the United Auto Workers, will seek salaried pay for production workers in place of the present system of hourly wages when contract negotiations begin this summer.

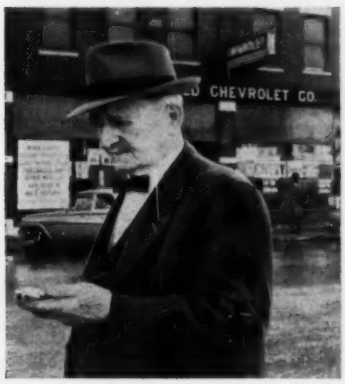
Reuther calls present system an "obsolete, economically unsound, morally indefensible and intolerable . . . system from which so much of our member's insecurity stems."



Senator Kenneth B. Keating of New York State receives the first certified Citizen's Crusade Card from Mrs. E. Lee Ozbirn, President of the General Federation of Women's Clubs. The card indicates that the New York legislator has had his automobile equipped with seat belts.

The union's contract with the "Big Three" end August 31, and later in the year with American Motors and Studebaker-Packard.

100 year old Frank G. Held, oldest man actively selling autos in the country, pauses in front of Kenyon, Minn. Chevy dealership which he has operated since 1912.



John Dykstra (left), a 44 year veteran of the automotive industry, has been elected President of the Ford Motor Company. Dykstra, shown with Ford Chairman, Henry Ford II, who he succeeds as President has been a Ford vice president since 1950 and a director since 1958. His responsibility will rest primarily in operations.





Out for "kicks" at Cyprus Gardens, Florida. This must be the curviest shoreline in the U.S.A.

Newscene



Aerial observer Sgt. Ed Barker and copter pilot Cliff Anderson are getting set to take off on another patrol.

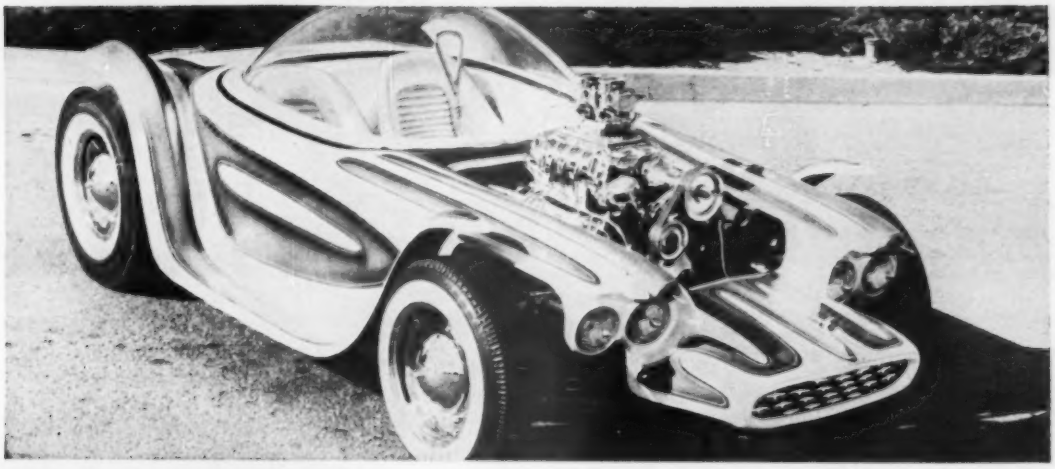


At right: "Airport" for the Hiller 12E used in California Highway Patrol's helicopter traffic patrol test was their parking lot at San Leandro.



Air-ground coordination between copter and patrol cars eliminates chain reaction on high-speed freeway.







General Outdoor Advertising's vice president and general sales manager W. Bruce Clark (above, left) hosts group of Detroit automobile sales and advertising executives at a luncheon launching GOA's national poster campaign designed to stimulate auto sales. Among the group were (left to right) Fred Adams, American Motors; Carl Uren, Chevrolet; J. C. Strait, Ford; and Richard Goodwin, Dodge.

The "Beatnik Bandit," owned by Ed Roth of Maywood, California, is a fibreglass-bodied, radio-controlled custom roadster that puts Hot-Rodding in the more "far out" realms of electronics.

Left: Canadian "Mounties" would "always get their man" for sure, if they really had this young lady on their payroll. Unfortunately for them, she is only temporarily on duty at New York's International Auto Show.

By **H. David Leslie,** Managing Editor

A tough question, answered by experts, suggests that service may be the answer



How long are

"—this is an unanswerable question."
"—you can't get the rubber industry to give you a time or mileage estimate—"
"—we would prefer to adhere to our policy of not specifically estimating tire life—"
"—tire manufacturers are always reluctant to state how much mileage their tires should give."
"—there is no simple answer."
"—if an average could be arrived at, and even this is a matter of opinion, it might very well be between 25,000 and 35,000 miles, but—"

Gobbledygook? No. These are good, honest answers by some of our leading tire manufacturers to a question for which (as one of them stated) "there is no simple answer." Actually, some gave us no answer—simple or otherwise—but those who did, were unanimous in their reluctance to commit themselves. And with good reason. Tire life is dependent upon too many variables over which the manufacturer has no control.

When you consider these "uncontrollable" conditions, it is surprising that a tire maker would guarantee his product against anything other than defects in material and workmanship. A spokesman for the Firestone Tire and Rubber Company feels that, "It is similar to a tailor predicting how long a suit of clothes will wear or a shoemaker stating that his product will last for so many months or so many years. The life of a tire depends, as does the life of a suit of clothes, or a pair of shoes, on how the product is used, or upon the many variables of wear."

Obviously, the primary factor contributing to tire life is the quality of the materials of construction. Premium and First line tires



Tires built to last?

are built to last longer than second and third line tires. And as for the $10 "Caveat Emptor Special," featured by some of the Super Markets and bargain basements, its life expectancy is about as small as some of the print in its guarantee.

However, weather conditions, road conditions, type and condition of the vehicle, proper inflation, loads carried, use of the proper tire, and driver habits ultimately determine the life span of the tire. And these, of course, cannot be controlled by the tire maker. Once the tire is on the wheel, and the wheel is on the ground, the manufacturer can only recommend and hope. It is the man who drives the vehicle and the man who services it who have the power of life and death over the tire.

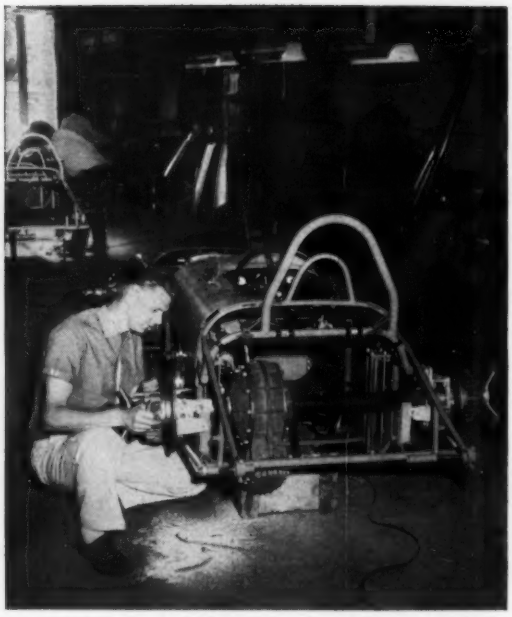
Together, they can insure that the tire will produce every mile that is built into it (what ever that might be) simply by following the manufacturers suggestions and by using their heads. The rules are simple: If your customer will follow the tire maker's recommendations as to size and capacity when purchasing the tire; if he will observe good driving habits, maintaining reasonable speeds, keeping fast starts and stops to a minimum, eliminating fast cornering and speed on rough roads, and if he will heed your advice, he will extend the life expectancy of his tires.

If the service man will convince his cus-

Continued on page 72

Indy's all for you . . .

BODY and FRAME



A. J. Watson, Glendale, California builder, shows rear view of one of two new Leader Card Specials.

Famous race car builders present their latest racing creations for the Indianapolis "500"

"GENTLEMEN, start your engines!" This command will start 33 of the world's fastest cars and drivers chasing each other.

Event: The golden anniversary of the 500-mile race at the Indianapolis Motor Speedway, May 30.

Everything is in high gear for the fastest race in Speedway history. Over 175,000 lucky ticket holders will see many of the finest racing machines. Champs, veterans, and rookies will be in there driving for gold and glory.

More power, more speed, and more cars at the finish. That's how it looks to this reporter. The pace will be fast—the fastest of all the 500's.

Barring accidents, and with favorable weather and a good track, speed for the race should average 140 m.p.h.—a new high.

Sixty-nine cars will try for the 33 prized starting positions. Most of them are Frank Kurtis and A. J. Watson built. All but two or three will mount the Meyer & Drake 255 cu. in. Offenhauser engine.

The M&D engine is affectionately dubbed "Old Reliable" and "Old Workhorse." And there's good reason. Year in, year out it powers nearly all of the cars at the Speedway. And year in, year out it delivers the goods.

Quite a few owners plan to use power steering. Back in 1954, nine or ten cars came to the track with it. But it wasn't used. Why? Too many mechanical bugs. If anyone uses power steering this year, it will be an Indianapolis first.

Keep your eyes on the Cooper-Climax. This British-made car will have Jack Brabham in driver's seat, the world's auto racing champ.



Chuck Chenowth's entry powered by Chevrolet modified 283 cu. in. Corvette V-8 engine.



Race car builder Frank Kurtis looks over a drawing with mechanic. Kurtis built 124 Indy cars since '46.

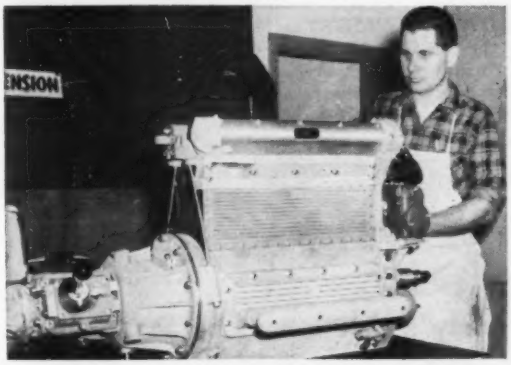
By Ray Kay, Pacific Coast Editor

The Cooper-Climax is of rear-engine design. It's similar to the one which he used to lap the Indianapolis track at speeds up to 144.834 m.p.h. during trial runs last fall.

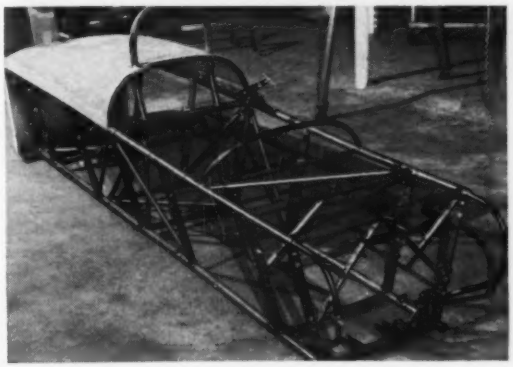
Brabham's car is powered by a 4-cyl. Climax non-supercharged engine with a 3.78-in. bore and a 3.74-in. stroke for a piston displacement of 167 cu. in. This is about 88 in. smaller than M&D's Offenhauser engine. But it's 10 per cent larger than the one with which he made his test runs.

The power to weight ratio of the British entry compares favorably with U.S. cars. It's

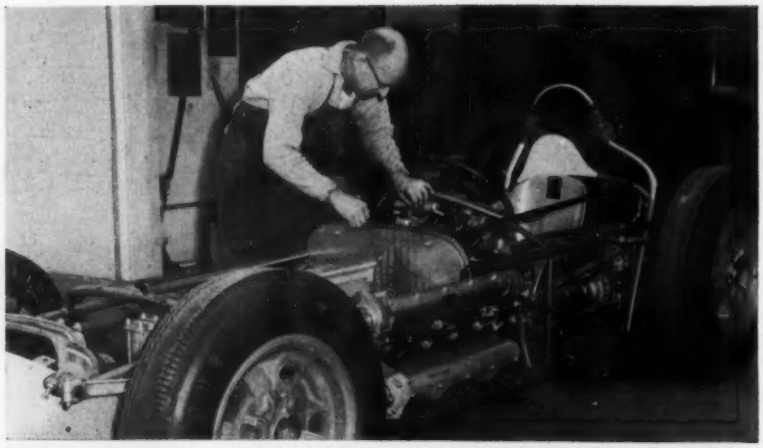
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Lou Meyer, Jr., with the new model Meyer & Drake counter clock rotating Offenhauser engine.



At right: John Zink Trackburner Special is similar to design of Cooper Formula 1 Car appearing at Indianapolis this year.



Builder Eddie Kuzma at work on the Dean Van Lines Specials.



Autolite Dealers Association Special mounts an external oil tank on the left, and the engine is not only on its side, but placed far left of center.

Indy's All For You. . . . . .

some 600 lb. lighter. Just in case, a second Cooper-Climax is in reserve.

John Zink's Trackburner is another rear-engine car in this year's race. It's the first U.S. made car of rear-engine design entered at Indianapolis since the Rounds Rocket Special failed to qualify in 1949.

Zink had planned to use Boeing Airplane Company's gas turbine engine. But there wasn't enough time to solve some of the engineering problems. So the car will have the M&D engine.

San Diego builder Chuck Chenowth plans a Chevrolet engine for an otherwise conventional racer. The powerplant is a standard 283 cu. in. Corvette V-8, sleeved down to 255 cu. in., the maximum allowed under Indy rules. Engine mounting is in the conventional straight up position.

Some engine parts: Grant pistons, chrome vanadium rods, stock hard-chromed crankshaft by the Crankshaft Co. It did the counterbalancing. Also Iskenderian roller cams and Hilborn fuel injectors. Compression ratio: 14.5:1. Highly stressed engine parts were shot-peened and magnifluxed.

Other features include special valves with 1⅝ in. exhaust and 2-in. intake. The car has a Scintilla magneto with a Lehman V-drive. It has a modified engine crankcase which



The new Jim Robbins Special front view clearly shows how builder Eddie Kuzma designed the weight for the left side.



J. C. Agajanian's Willard Battery Special, Chief mechanic Johnny Pouelsen and team member Gordon Campbell make adjustments on the Mayer & Drake 4-cyl. Offenhauser.

accommodates a dry sump lubrication system.

Actually, three complete engines will go to the track. They vary slightly in valve timing. The kit will have four sets of cast iron heads and four sets of aluminum heads.

Year by year, Meyer & Drake keep improving their engine. Two of the new ones are counter-clock rotation. Reason: The owners hope that the reverse torque reaction will improve car handling characteristics. This called for a special oil and water pump drive.

The writer interviewed Leo Goossen, design engineer at M&D. "Our engine's r.p.m. during racing has been going up each year. It now reaches a peak of about 6700 to 6800 r.p.m. for short periods. So we had to improve our camshaft oiling system.

Continued on page 72



Lujie Lesovsky's refurbishing the machine belonging to Racing Associates.

The day HARROUN won



He drove alone with a rigged up rearview mirror (the first!),

"500 Miles to Go"

An easy reading, highly interesting and authentic history of the 500-mile Indianapolis Race has just come off press. The title is "500 Miles To Go" and is being published by Coward-McCann, Inc., New York, N.Y. in connection with the golden anniversary running of the "500" on May 30.

It's author is Al Bloemker, Speedway publicity director and former sports writer for the Indianapolis Star. The 310-page book includes 32 pages of historical Speedway photos dating from 1909.

RAY Harroun won the 1910 AAA racing Championship, then announced his retirement. However Carl G. Fisher, who had operated the Indianapolis Speedway racing programs from 1909 on, decided to hold the first "500" on Memorial Day, 1911.

Howard Marmon, builder of the famed Marmon "Wasp" convinced Harroun to try once more. In his practice runs, Harroun noted that his competitors ran 78 m.p.h. and more. Harroun figured he could win the race at a steady 75 m.p.h. and no more. At higher speeds, other cars were tearing their tires requiring more pit stops and tire changes. His steady driving won the race.

Incidentally, Harroun drove alone. When a threatened protest cropped up because he wasn't using a riding mechanic, Ray found a mirror, bolted it to the edge of his car's cowling and the first rearview mirror ever used in an automobile was a reality.



Carl Graham Fisher, (left) founder of Prest-O-Lite Co. and the Indianapolis Speedway. He also originated the Lincoln Highway Assn. which pioneered road building in the U.S.

at 74.59 MPH



Above: The entries in the first Indianapolis "500" race line up at the starting line. Henry Ford I, a regular spectator at the Indianapolis event, made several of the photos shown here.

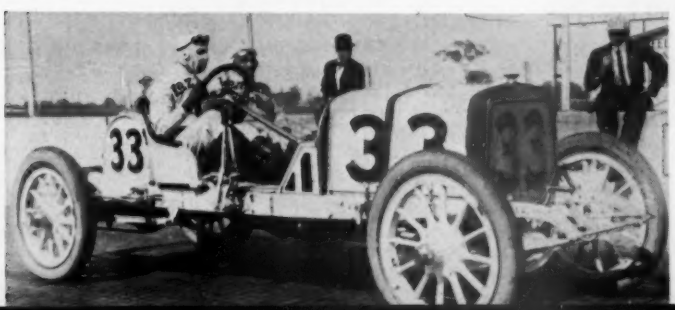


Below: Through the clouds of dust and exhaust gas come Louis Disbrow in a Pope-Hartford (car no. 5) and Joe Jagersburger in a Case (car no. 8) and Will Jones in a Case (car no. 9)

paced himself at 75 M.P.H. to win over his tire burning competitors



There were probably as many hitching posts as there were parking spaces. This idyllic scene is another Henry Ford I picture, found in the late Mr. Ford's files at Fairlane. Through the haze are shown the racers in the picture's background.



Ralph Mulford in a Lozier was Harroun's toughest competitor. He finished second almost a full lap behind the winner.

SELL

Shock Absorbers for SAFETY SAKE



Mechanic explains the functions of a shock absorber to prospective customer.

The cars and trucks that took the heavy beating in last winter's stormy weather need attention now.

In many sections of the country, last winter brought endless days of heavy snow and ruts of ice. This played havoc on many vehicles which are now bobbing like little lost ships on very heavy seas.

Today, every car that comes into your shop is a prospect for new shocks or spring repairs. Be sure to take a look see.

One of the quickest ways of checking shocks is by jouncing the car up and down. If car has little or no resistance and continues to bounce shock absorbers are in bad shape and should be replaced.

If car is low in the front or rear help your customer by installing a helper spring or one of the new type of shocks that are designed to control the car height.

A faulty shock or one that is not operating properly does not control the body move-

Selling shock absorbers is easy once you gain customer's confidence. The following article points out the various ways to get this business

By William M. Montgomery, News Editor



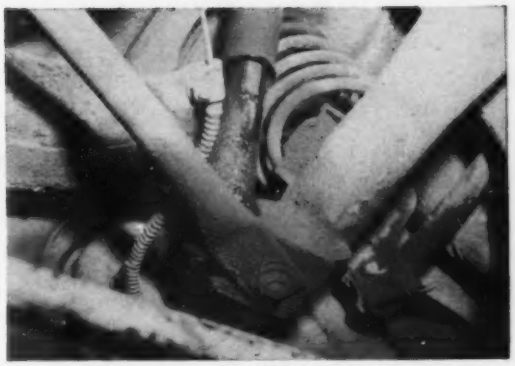
Mechanic checking front shock absorber action.

ment of the car which results in a continuous up and down movement causing a lot of discomfort to passengers and the driver of the machine.

Rear wheels bouncing over small bumps while spinning in the air cause the rubber to scuff off when they again contact the ground. Also it can effect gasoline economy by this slippage at the rear wheels.

Good steering is also dependent on the

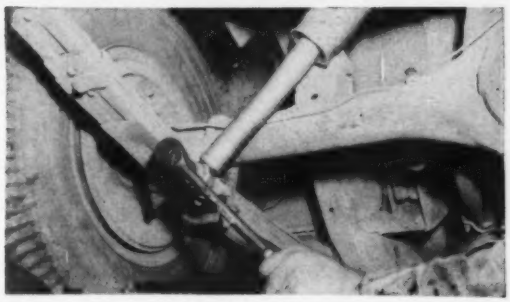
Continued on page 84



This rear shock shown in picture above is leaking fluid and should be replaced.



New type rear shock absorbers were installed on this car to overcome weak springs.



New shocks can be installed in just a few minutes when car is on a lift.

Installing a helper spring. This type of spring allows the owner to carry more weight.



FLIM—FLAM—BAM you've HAD IT!

As the Pennsylvania Dutch say, "Ve Git Too Soon Oldt Und Too Late Schmart" Dig some of these morsels so you'll get smart soon yourself

OLD P. T. Barnum hit the nail on the head when he stated: "There's a sucker born every minute." Internationally, the Flim-Flam artist is always on the lookout for old P. T. Barnum's lollypop.

In Cairo, Egypt, 5600 air miles from New York the Arab dock boys are still setting up GI's or tourists. One favorite gimmick was to let the GI take a swig of whisky out of a one gallon wooden keg he had strapped over his shoulder to prove the quality of his product. The GI, of course, was greatly impressed with its quality. He would ask the logical question, how much for the whole keg?

The dockboy doesn't let loose easily. They love to dicker and dally—but not too long. The GI runs off with what he thinks is a steal, a gallon of good booze for a tensky. He rounds up his buddies for a good old Boston Tea Party.

About now, you should be getting the drift of this tall tale. The keg had a false bottom with about three or four shots of average booze, the rest of the gallon was water. So it goes on every day and every night, always a new lollypop, Cairo, Paris, Tokyo, New York, Broken Bow, Arizona, Blue Ball, Penna., it makes no difference the boys and girls are always active.

Now automotive men are reputed to be "sharp as a tack" when it comes to doing business with the public. That may be so. However, every once in a while they "ain't so sharp." The "Fleece-em-and-getters" get em!

Here's a for instance. A man came to the parts counter and ordered a large quantity of parts. He had a helper with him, who, as the parts were placed on the counter carried them to a car parked outside. When all the parts had been ordered and the bill presented, he told the Parts Manager that he wanted to check to be sure that everything was in the car. He then took the invoice, went out the door and has not been back since.

Another twist in the same line is, the conman loads the parts and then asks for his invoice. In some operations, the cashier is at a distance or in another location from the parts room. Mr. Fleece-Em, takes the invoice and just fails to stop at the cashier's cage. Once again, a freeloader loads up.

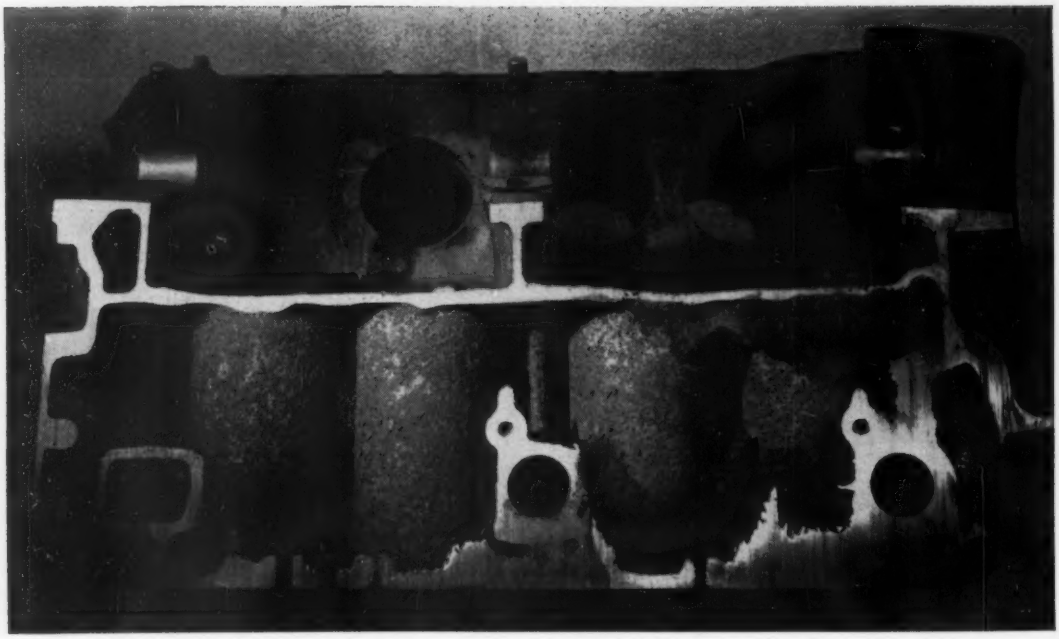


We are all aware of the way auto sales have been going lately. In some showrooms, the salesmen are lined up like sparrows on a telephone wire. The first customer to touch the door knob immediately sees a salesman peel out of the formation and make a power dive right into his arms. With an atmosphere such as this, a salesman is ripe for a right hook.

Dig this choice morsel! A nice looking gentlemen, between 30 and 40 years of age, very well dressed—walked into the showroom and identified himself as owner of Johnson's Funeral Home, in a New Jersey city. He stated that he wanted to purchase a black station wagon, to use in his business.

After completing the transaction in the showroom, the gentleman invited the salesman to come to his home for money to cover the purchase. Before leaving the showroom, the gentlemen asked if he might use the phone. The salesman, watering at the mouth of course said, "sure, go right ahead." Presumably talking with his wife in audible tones he said, "I would be glad to pick up your medicine and necessary drugs, but I haven't the money." He then stated. "I've purchased a station wagon and I'm on my way home for money to make the payment."

Continued on page 84

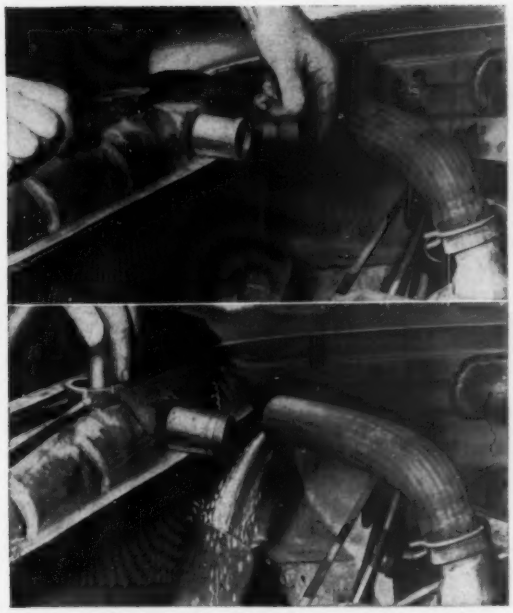


Cylinder block cutaway shows how scale and sludge form in a block.

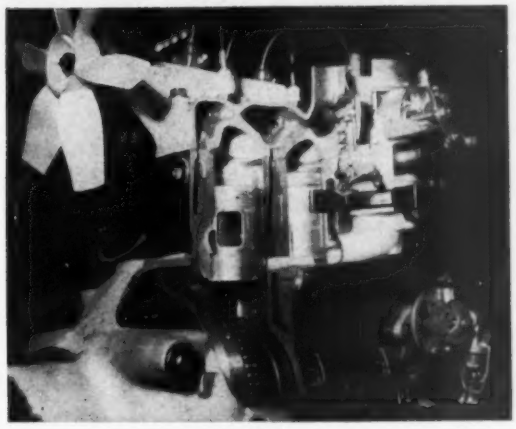
How to fight COOLING SYSTEM termites

Assure your customers of a rust free and clean cooling system. Use the latest techniques when selling this service at your shop

Like Paul Revere riding through the night to give the alarm, Motor Age sings out, "On Guard, On Guard. Corrosion is coming." It will eat your customer's engine out of "his head and block." The tactics that "corrosion" uses is the slow, meticulous infiltration of its "shock troops" composed of chemical and electrical divisions. You as automotive "minute men" must be prepared to meet the enemy with a well prepared attack. The best defense has always been a good offense. To combat these corrosive elements we must take into consideration their method of operation. They always look for a soft spot in the cooling system; air leaking into the cooling system, sludge accumulations in block and radiator, deteriorating hoses, inoperative pressure caps, and many other malfunctions.



Two photos at left: (Top) Simplified method of flushing is to disconnect upper hose and insert a plug in radiator neck. (2nd photo) After plugging top tank, water is run at moderate speed for about 5 minutes.



Cutaway view of a DKW engine cooling system.



Check pressure cap.



Check thermostat.

By John K. Montgomery, Technical Editor

What can we do to correct these problems?

First off, test the cooling system for internal and external leakage. Two methods can be used: one, use a radiator pressure tester on the filler neck fitting. Build up pressure as recommended by the manufacturer. Observe needle drop-off. Needle should not drop from the test position for a tight cooling system. This test can be made with the engine at idle speed to detect combustion chamber leaks. A leaking head gasket can show up because the pressure applied by the tester can force water into the combustion chamber. This will short out the plug or cause water to escape with the exhaust. External leaks will be evidenced by a visible stream of water at the point of leakage.

The other method is by use of a combustion gas detector. These instruments were covered in detail in the November and December issues of Motor Age 1960. A review of your back copies of the magazine will bring you up to date on these excellent leak detecting devices.

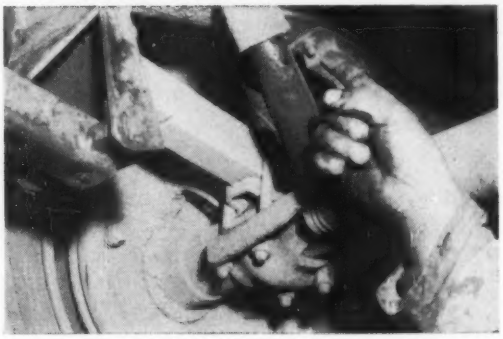
Check the function of the thermostat. A thermostat can fail with little or no advance warning. The valve and operating mechanism is subjected to high and low temperature and also to wear and bending movement.

The radiator pressure cap should be checked. If the pressure cap fails to open sufficiently, the pressure may build up in the system and cause leaks at the radiator seams or hoses.

Use your head when you

USE YOUR LIFT....

Put your customers' cars on a pedestal so you can show them service they need. It isn't polite to point but it's profitable



Use your head when you use your lift. Point out to your customers those leaking shock absorbers and other visible defects.

By Terrence J. McCabe, Feature Editor

ALL alert service shop operators are always on the lookout for more ways to increase shop profits. Ever stop to consider that the real answer to this problem is time? Time is money and must be conserved in order to show a boost in profits.

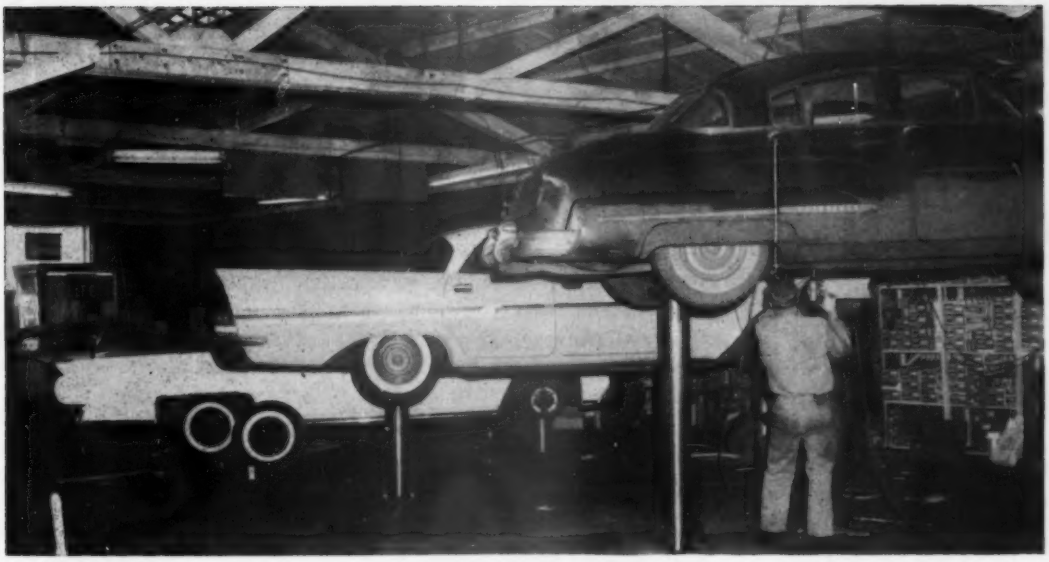
How much time does your operation throw down the drain? Are your people still raising

Lifts allow you to work in a comfortable, eye-level position. You can work faster, cleaner and more profitably when you use a lift.



Modern lifts in combination with power tools have proven to be the money making answer to swift customer service in the service department.





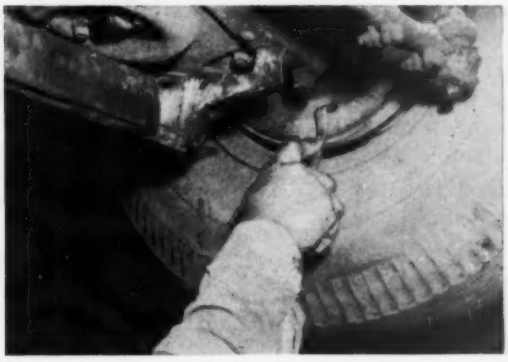
A series of lifts give your shop that modern efficient look. Cars can be raised or lowered to any convenient height.

cars one wheel at a time? As an example, take the simple minor brake adjustment on Buick as shown in the Chilton Flat Rate Manual for 1961. On page 12, it gives a factory time of .4 hours or 24 minutes, including, checking the master cylinder fluid level. That's a fraction better than two brake adjustments per hour.

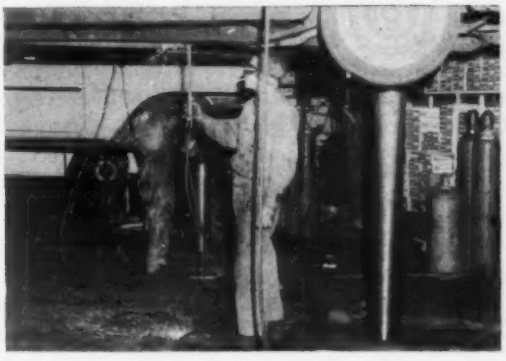
Now you know that it should only take one tenth or at the most two tenths of an hour to perform this operation. Especially after the car has been raised hydraulically on all four wheels in just a few seconds by use of the modern automobile lift. The flat-rate of course, always allows for many variables in

Continued on page 89

Brake service and adjustment are performed at a convenient height. Customers can see or be shown any additional work required.



Speed is the answer to today's service problems. To get more work out in any given time you must modernize with modern equipment.



READER'S CLEARING HOUSE

MOTOR AGE CLINIC for troubleshooting

BY JACK MONTGOMERY, TECHNICAL EDITOR

Olds Has An Annoying Vibration Around 35 m.p.h.

Recently we overhauled a '55 Olds, and prior to the overhaul there was a vibration that seemed more pronounced at 35 m.p.h. Now the engine has good pickup and maximum performance, but here's the problem; the vibration is still there. Let me point out the vibrations are not in the drive line. If the engine is left in neutral, then raced as if going about 35 m.p.h., the vibration is very pronounced and does not seem to have the same tempo as the engine R.P.M.'s. I have tried new motor mounts, checked the exhaust system, disconnected the fan belt and ran the engine without the water pump and generator, all to no avail. Before we take the transmission down and see if the torus cover is out of balance I thought perhaps a letter to you would bring some results. I would appreciate any help you can offer.

George Serra
14 Adalist Ave.
Butler, N.J.

THIS vibration, I am quite sure, is the result of an unbalanced condition, or possibly, a spring has broken in the connector. Sometimes they can be balanced by adding flat washers to the connector bolts, one or two at a time to act as weights.

Engine Vibrates and Misses After a Short Run

I have a 1953 Cadillac and I have trouble starting it. It will start in the coldest weather when the car stays outdoors overnight. After running the engine about 5 or 10 minutes the battery will not start the car. It will start with a "jumper" battery very easily. Take the car on a short trip, say, 10 or 20 miles, the whole engine vibrates and it misses. I've put in a new battery, overhauled the starter, put on a new rocker arm assembly and checked the valve lifters and they seem to be O.K. About a year ago I did a complete motor overhaul, new rings, new cylinder head, and ground the valves. I would appreciate it very much if you can help me to correct this fault.

Henry Osboby
Henry's Service Station
Liberty, N.Y.

IT seems to me that you have two separate problems; engine vibrates and misses . . . also hard starting. This vibration and miss could be from sticking valves or the valve lifters may be pumping up, in which case the valves and lifters should be rechecked. If the starter and electrical system checks out OK, I would check for loose main bearings. I have seen similar cases where a loose rear main bearing caused the flywheel to bind.

Having Trouble With Batteries Exploding

Periodically, there seems to be an epidemic of batteries that show up on the territory that have exploded because of some internal condition in which the gases were ignited by spark that was generated in one way or another. In the minds of the majority of users of these batteries, the batteries are inferior in quality or are not designed correctly to give service without destroying themselves by internal explosions.

S. B. Brubaker, President
Auto Parts Co., Inc.
Indiana, Pa.

HERE is what the Association Of American Battery Manufacturers have to say about explosive battery gases: The gases issuing from a charging battery are a mixture of hydrogen and oxygen gases and will explode with great violence and spraying of acid if a spark or flame is brought too near them. The gases are not dangerous when diluted sufficiently with air but a room or compartment in which charging batteries are confined should be ventilated. 4 per cent hydrogen in the atmosphere is said to be dangerous. Do not bring a flame or spark near vent openings until gases have been cleared from cells by blowing air into them gently.

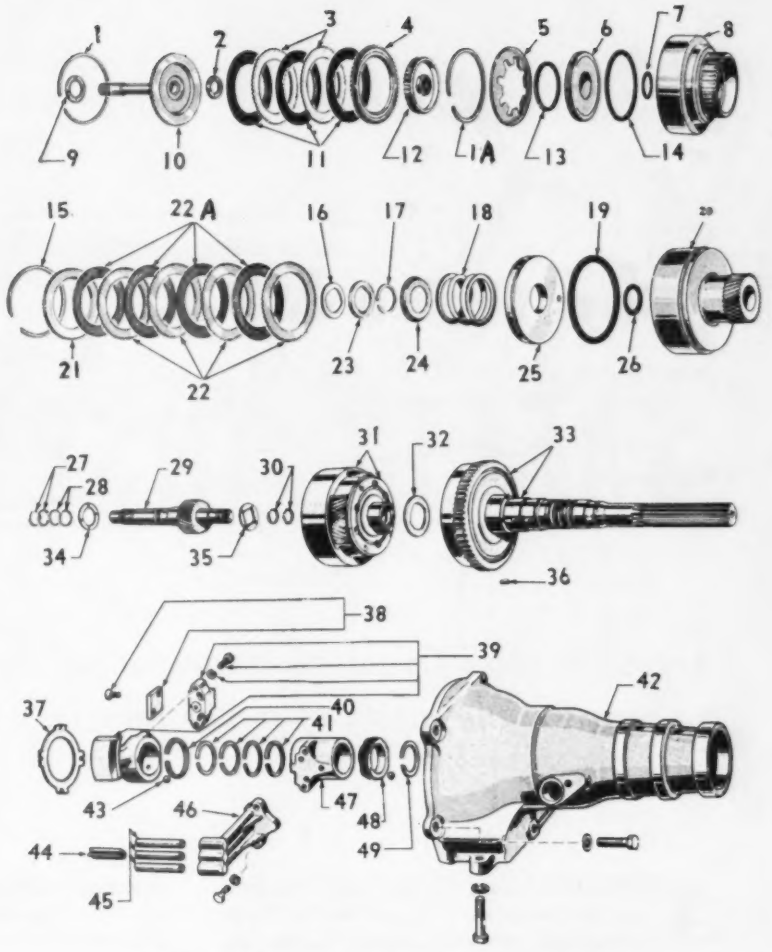
When restrictive self-leveling devices are used in the vent openings and the liquid is at "full" level withdraw (temporarily) enough electrolyte so that the hydrogen gas trapped in the cell can be blown out with a gentle stream of air.

Due to the presence of impurities in all automotive battery

cells, small quantities of hydrogen gas are given off at the negative plates even when the cells are not being charged. It must be assumed therefore that hydrogen gas may be present within the cells at all times. A torch, match flame, lighted cigarette or sparks from metal tools accidently laid across the terminals might cause ignition of hydrogen. To avoid sparks do not disturb connections between batteries while charging; throw switch "Off" at charger first. The possibility of ignition of hydrogen gas by static electricity accumulated on the car or on one's person and discharging near the vent openings can be minimized if, immediately before working on the battery, a metal rod or wire is touched to the car bumper and to the ground.

It naturally follows that when using a fast charger or when using a jumper battery to start a car, extreme caution must be exercised to prevent sparks from the jumper cables at the battery. Never pull the cables from the battery terminals after charging the battery unless you first shut the charger off. Wait a few moments then disconnect the cables. When using the leads of a jumper battery to start a car always connect the cables to the car battery before touching them to the booster battery. The safest thing to use for starting any car is the wheeled cart with booster and leads connected in series through a remote switch. This allows you to connect the jumper cables to the battery before the power is applied.

Another caution to keep in mind is never drag a battery across the floor of the shop after taking it off the charger bench. Static electricity built up in the hard rubber case can cause the hydrogen in the cell tops to explode. There have also been cases of batteries exploding when pulling off a radiator hose without first draining the cooling system. The hot water spraying over the battery caused it to explode.



Exploded view of Fordomatic Transmission

Having Trouble With A Fordomatic Transmission

I have a 1959 Ford 1/2 ton pickup equipped with Fordomatic transmission which continually blows the front clutch drum. I have removed the transmission and completely rebuilt it, including all new clutches, clutch drive plate and discs. New clutch piston seals, all new oil seal rings, all new thrust washers adjusted transmission to specifications with dial indicator. We rebuilt the Servo, installed a new oil distributor sleeve, governor, front oil pump, and valve body assembly. Cleaned and checked pressure regulator, overhauled the converters and thoroughly cleaned the whole unit, adjusted bands and linkage to specifications. Oil pressure normal but still blows front drum. Any help you can give me on the unit will be appreciated.

S. A. Keystone Motor Co.
Jackson Center, Pa.

IT isn't quite clear to me just what you mean when you say the clutch drum blows. I imagine you mean the clutch piston blows. If this is the case I would suggest replacing the front drum #8 and piston #6 as either one or both these must be worn. Before assembling the units they should be checked out with air pressure.

Ten tales on . . . .

SAFETY INSPECTION

Accounts show frightening lack of public concern for the safety of motor vehicles

APPARENTLY, a danger sign is a daring challenge to man or beast. Wave a red flag at a bull—he'll charge you for sure.

Warn a young son on the dangers of nicotine; he won't smoke in your presence, but. . .

Quote that good old slogan, "Safety is everybody's business," to a motorist; he will usually grin—then oft-times drive away and get hurt, or injure someone else. Simply because of the careless neglect of his auto's many safety features. . . and the attitude that "it can't happen to me."

More and more safety minded people are dedicated to working on safety. Many have found, by trial and error, that periodic vehicle inspection is one important way.

Let's take case histories of several people applying for State Safety Certificates. These few are symbolic of the millions so applying, in a state where privately owned garages and service stations perform these inspections.

A young couple drove their beat up old pickup onto the service court. Asking the greeting service salesman for a "state sticker," the driver held out the money, as though in payment for a toll road fee, or admittance to a drive-in theatre.

"Keep your money awhile," the Service Salesman advised. "Our mechanic inspector will be with you soon."

"But we don't want a mechanic, or an inspector," the young man insisted. "We just moved from another State. Had to buy our auto license, so the lady at the courthouse said, 'Be sure and buy your sticker. They only cost a dollar.' "

They actually thought, or were innocently led to believe, that this was just another license or tax. On being told of the safety requirements, the couple conversed privately for a moment, then drove away.

The salesman gazed after them in a sort of bewildered stare. His experienced eye saw the lenseless stop lights do three quick blinks; his long trained ear caught that familiar sound of one grabbing, sliding tire. He knew the driver was pumping his brakes at the nearby traffic light.



Meanwhile, a mechanic named Dan, qualified as an inspector by the Department of Public Safety, was having a rough time. A customer had become the recipient of a police summons, because of an out-dated "sticker" on his car's windshield. He vented his wrath on Dan, and seemed to think the shop personnel should automatically take care of such things. Perhaps he was right, to some extent, but...

"But this is a civic responsibility," Dan tried to explain. "You need to know your car is safe, and. . ."

That set off another tirade, which ended only when the Service Manager, with his placating manner, intervened.

The car was run through the usual tests, wiper blade replaced, and the current voucher stuck to the extreme right hand side of the windshield.

As the man drove off, the Service manager mused, "What an odd situation. He owns a couple of airplanes. I'm sure he follows all CAA requirements."

In answer to a summons, Dan reported to the dispatcher, who handed him a number of repair orders.

"Just take 'em as they come," the dispatcher said. "Why do they have to wait till the deadline is almost here? They've had about eight months to do this."

"I don't know," the mechanic inspector answered, and went quickly toward the parking area.

Enroute, he was confronted by a former fellow worker, who asked, "Do me a little favor, Dan? My car is in perfect shape, and I'm in a terrible hurry. Can't you fill me out a sticker and let me go?"

Dan had been through this many times before, and though he knew his former cohort would be unhappy for a while, he refused. It takes more guts each year, Dan was thinking, as he climbed into a year old hard top.

Slightly gunning the motor to reach the required twenty m.p.h., Dan couldn't help being aware of the pretty girl who had slid over to let him drive.

Continued on page 92

Ed Janicki's Dealer News

Oklahoma dealers are trying to clarify the new 12 month/12,000 mile warranties for their customers. . .Dealers are putting out "Warranty Facts" stickers



Edward Janicki

MOTOR AGE's News Editor, Detroit

which outline facts not included in warranties, announced by the car makers this year. . . Stickers are pasted in new car manuals.

New Jersey association opens offensive against customers who pressure dealers into absorbing deductible amount of collision policy. . . It warns dealers not to be party to defrauding insurance companies by submitting pumped up bills "to bury the deductible." . . Shops should think twice before surrendering to customer pressure, advises state dealer association.

Suggestion on how Detroit can boost sales comes from the Greater St. Louis dealers. . .Their idea: come out with a real junking plan of up to $100 per car. . . "Why not spur new car sales from the bottom up instead of from the top down?" the dealers ask. . ."It would put real life in the used car market and revitalize new car market."

New car buyers are stretching out payments a bit longer. . . According to GMAC, monthly installment payments averaged $84 last year, down slightly from $86 a month in each of the two preceding years. . . However, average term of installment contracts was 31.3 months last year.

Newscoop . . . . . *Continued from page 34*

Here Come Two-Ply Tires

TWO-PLY TIRES MAY BE COMING SOON on larger cars, too.... General Tire & Rubber, among other tire companies, is now experimenting with carcass.... Some compact cars will be carrying two-ply tires next year, but a two-ply tire for larger cars was believed to be much farther away.

However, car companies feel that old four-ply tire may be running its course.... Tire makers say a two-ply casing is superior to the old job.... It gives a softer ride and reduces rolling resistance, which in turn provides better mileage and improved traction, (less expensive too).... Next: a one-ply tire, now in the experimental stages.

Don't Switch Wheels, Say L-M

OCCASIONALLY A CUSTOMER with a station wagon indicates a preference for a particular brand or type of tire.... Dealers, in some instances, have been accommodating by switching wheels between station wagons and passenger cars.

Lincoln-Mercury service department advises that the installation of 5½ inch passenger car wheels on station wagons can result in poor stability and handling.... For this reason, a 5½ inch wheel should never be interchanged with a 6 inch wheel.

A.S.I.A. In Good Neighbor Merger

AUTOMOTIVE SERVICE INDUSTRY ASSOCIATION and Canadian Automotive Wholesalers' & Manufacturers' jointly announced affiliation of the Canadian association with its American counterpart to become effective July 1, 1961

Move will broaden relationship between the two associations.... It will add 300 Canadian members to a membership now approaching 6000.

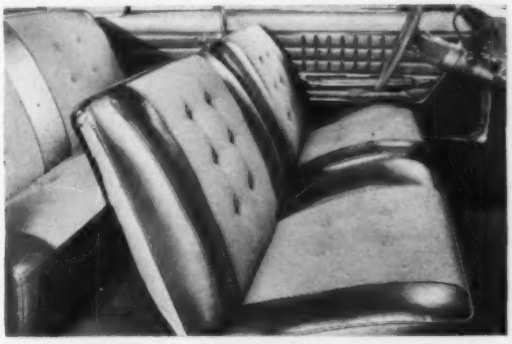
Leasings Continued Growth

CAR AND TRUCK RENTAL continues to grow.... U.S. Census Bureau reports from 1958 census of business show there were 45,500 cars in daily rental and 122,100 on regular lease; 14,900 trucks in daily rental and 52,600 on lease, and 40,100 utility trailers being rented or leased.

Continued on page 64



The Landau fabric top with Buick emblem on the sail panels sets Skylark apart from all other cars.



Bucket seats are optional for the Skylark's richly styled interior.

Meet the SKYLARK

Buick's new luxury sports coupe adds glamour to the compact car market

Buick has introduced a high performance, luxuriously appointed sports coupe—the Skylark.

Distinguished by a sheer roof-line, fresh body styling, turbine-like wheel covers and a richly upholstered interior, the Skylark will be available in dealer show rooms about mid-May.

The Skylark introduces as standard equipment a 185 horsepower engine, the Skylark 185, an advanced and more-powerful version of the 324 pound aluminum V-8 designed and built by Buick and presented in the 1961 line last fall. This was the first aluminum V-8 built by an American manufacturer.

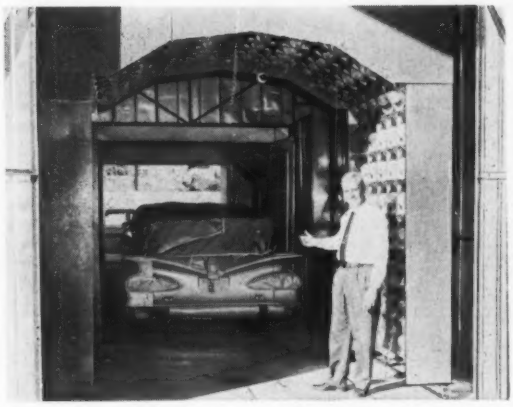
"In presenting the Skylark, Buick is recognizing a demand for a freshly styled, high fashion car reflected through our dealers from discriminating buyers, many of them women," said Rollert, General Manager, of Buick and Vice President of General Motors.

"Skylark, a dramatic new model, is being made available at this time because Buick car acceptance is growing. Buick styling acceptance is at its peak, and the benefits of

Continued on page 100

Efficiency in the . . . .

PAINT DEPARTMENT



Claire Howard at the entrance of the bake oven where a job is ready to run out.



View shows the four lanes. As cars are completed they are driven to the will-call lot.

Phoenix, Arizona Chevy Dealer develops maximum profits in minimum of space

"IN a minimum of space," said Claire Howard, body shop manager, Rudolph's Chevrolet, Phoenix, Arizona, "we are averaging 300 customer jobs a month which run right at $80 parts, $80 customer labor each. This is in conjunction with our internal and factory warranty work."

The paint department is a study in efficiency.

First, the layout: Cars from the metalmen are run out directly on the slab, and pulled into one of the four lanes. If they are small jobs that can be completed quickly, they are put in one of the two middle lanes. Jobs that are going to take longer to complete are pulled into one of the outside lanes.

MOTOR AGE
BODY SHOP



One of the paintmen is shown spotting.



Head sprayman, John Vinyard, puts the finishing touches to this vehicle in the outside lane.



While waiting for the other side to dry out, the paintman masks up the opposite side.

"No cars are pulled into these lanes just to get them out of the way," said Howard. "Every vehicle in the lanes is ready for the paintmen to start working on. This working area is too valuable from a profit producing standpoint to store cars."

It was immediately noticeable that every man in the department was alternating between two and three jobs. Usually between a job in the middle lane, and the outside lane where major work was in progress.

"One man can work on two jobs as easily as one, and turn out twice as much work in the same period," said Howard.

To turn out the volume of work that's

Continued on page 91



Each man attends to all details involved on the job assigned to him.

Neil Regeimbal's Washington Almanac

Small dealers and shops in so-called "distressed areas" can now borrow money at only 4 per cent interest. . . Small Business Administration has cut the rate on



Neil Regeimbal

MOTOR AGE's News Editor, Wash., D.C.

its loans in 311 cities classed as areas of high unemployment as a recovery measure. . . Rate in other cities remains at 5½ percent. . . Most SBA loans are made through banks, so efforts to obtain loans should start at firm's local bank.

Federal Trade Commission is considering issuing later this year a special guide to help jobbers, warehouse jobbers, and others stay out of trouble under the Robinson-Patman Act for giving or receiving price differentials. . . Involved are sections 2(a) and 2(f) of the Act, which govern legal and illegal price differentials for different types of buyers and sellers.

Congressional advocates of a credit disclosure law, such as that advocated by Sen. Paul Douglas, D., Ill., may have trouble getting backing from the Kennedy Administration. . . At least one high Administration official is flatly opposed to the bill, particularly because of its adverse effect on car dealers. . . Measure would require all credit charges to be expressed in terms of simple interest. . . This official says this would hurt dealer's profits, force higher car prices. . . Banks would also be hurt.

Newscoop . . . . . *Continued from page 60*

Bucks From Trucks

IF YOU'RE OVERLOOKING SERVICE potentials on trucks, look at these figures.... There are now 11.5 million trucks in the U.S..... They represent 15.6 per cent of total number of motor vehicles on the road.

Included are: 8.3 million small trucks (gross weight up to 12,000 pounds); 2.3 million medium-sized trucks (gross weight up to 12,000 to 25,999 pounds); and 900,000 big trucks (gross weight of 26,000 pounds or more).

Of total, farmers own 3.14 million; business firms, manufacturers, stores, and like, own 7.33 million; and motor carriers hauling freight "for-hire" own remaining 925,000 trucks.... These figures come from the American Trucking Assn.

Drunk Registry Hanging Fire

CONGRESS WILL HAVE TO MAKE a technical change in last year's law creating a national driver register before all states may join in.... Law calls for a listing in the U.S. Commerce Department only of persons whose driver licenses have been revoked by a state for drunk driving or a fatal accident.... Some states suspend licenses, and may not now participate in the program.... So far, 21 states and District of Columbia have joined register program.

Seat Belted Cars At Commerce Dept.

U.S. COMMERCE DEPARTMENT'S 2,000 cars and trucks are being equipped with seat belts .... It will be first major federal agency to adopt belts for all its vehicles.... Commerce Secretary Hodges is also urging the 31,000 Department employes to equip their 20,000 cars with belts.... To help in this program, Department is authorizing all its concession refreshment stands in the Washington areas to sell low-cost seat belts.... The Secretary started seat-belt program by installing one in his private car.

Electric Cars To Be Tested

Small electric cars are going to be tested by at least one government agency.... Tennessee Valley Authority has bought a small electric car to gain experience in operation, maintenance, and reliability of such vehicles.

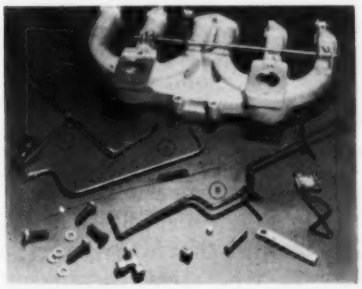


New Products Shopping Center

Dual Manifold

For installation on Dodge Lancer

Offenhauser Sales Corporation: Dual manifold for installation on the 170-cubic-inch, 101 horsepower 6-cylinder engine in the compact Dodge Lancer is now being marketed. With modifications, the unit can be installed on the Lancer's optional 225-cubic-inch, 145-horsepower engine, company states. The easily installed unit accommodates two stock single-throat carburetors. Included in the base package are: the manifold, a fuel line "T," accelerator linkage (A) and the necessary material for installation. An alternate accelerator linkage (B) can be formed out of stock accelerator rods by the installer for use with the 225 engine. The choke linkage (C) which provides better cold weather operations, also can be formed by the installer out of



drill rods. *Write: Offenhauser Sales Corp., 5156 Alhambra, Los Angeles 32, Calif.*

Shaft Saver Adapter

Straightens bent crankshafts in many 2-cycle small engines

Little Brute Company: Now it is possible to straighten bent crankshafts in many popular 2-cycle small engines without dismantling the engine. Company has just released a newly designed adaptor which fits many popular Clinton 2-cycle engines. The Little Brute Shaft Saver is the tool first offered last year for straightening bent crankshafts in most vertical shaft engines.

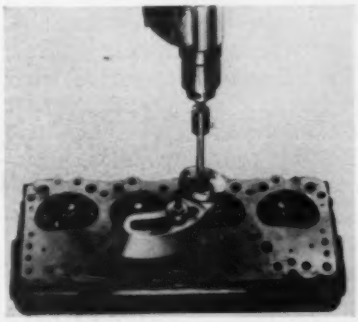


With the optional adaptor, this special service may be offered to an even wider group of small engine owners, company states. *Write: Little Brute Co., 317 E. First St., Monticello, Iowa.*

Valve Guide Servicing Tool

Assures perfect direct center line

Hall-Toledo: Just released is a tool designed to service worn valve guides. The new tool, Model GT, was developed for reaming valve guides over-size to the engine manufacturers original



specifications. Also for core drilling integral valve guides for the installation of replaceable valve guide bushings. The model GT Valve Guide Servicing Tool according to the company, has the unique feature of aligning itself to the valve guide through a combination valve seat and valve guide adapter. It thus assures perfect direct center line concentricity. The Model GR can be used with either a drill press or hand drill. *Write: Charles W. Bossell, Asst. to the Pres., Hall-Toledo, Inc., 2931 South Ave., Toledo 9, Ohio, or 'phone Evergreen 5-2519.*

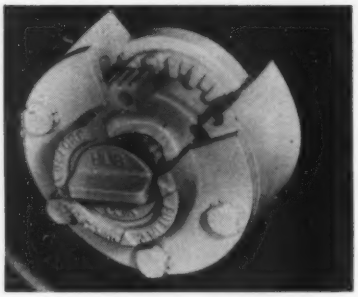
Lock-out Hub

Eases engaging and disengaging the front wheel drive

Dana Corporation: A new front wheel drive lock-out hub called

Continued on page 66

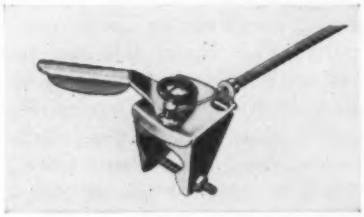
the Hub Lok, has been introduced. Designed to fit Spicer axles, Hub Lok is available on four wheel drive trucks and light vehicles in the ¼, ½, and ¾ ton



range. With the addition of Hub Lok's to the front driving axle, it is possible to disengage the front wheels when not required. This eliminates excessive wear on the axle and propeller shaft while increasing fuel and tire economy, company states. A major feature of Hub Lok is the ease of engaging and disengaging the front wheel drive. A twist of the control knob and the spring-loaded Hub Lok will lock in place. *Write: L. J. Lammiman, Adv. Mgr., Dana Corp., 4100 Bennett Rd., Toledo 1, Ohio.*

Throttle Controls

For power mowers or other motorized equipment



Dorman Products, Inc.: New throttle controls for power mowers are being offered. No. CC36 can be clamped on either square pipe or rod mower handles of 1" to 1¼" outside diameter. No. CC35 is the same control but is designed for bolt-on mounting. Both controls will maintain their position on either power mowers or other motorized equipment, regardless of vibration, company states. Adjusting screw on plated lever can be tightened by coin to exact tension required to hold control at desired setting. Full lever movement transmits 1¼" movement to cable end. *Write: Lee Dorman, Vice-President, Dorman Products, Inc., 5757 Mariemont Ave., Cincinnati 27, Ohio.*

Spare Tire Lock

Cannot stick, jam or freeze

Wise Lock Company: An accessory spare tire lock is being



manufactured. This security device fastens directly to the spare tire mount. It can be installed and removed in less than one minute. The Wise Spare Tire Lock features a mechanism which is a patented concentric tube device that cannot stick, jam or freeze, company claims. The unit relocks without the use of a key. The manufacturer states that this safety lock is also used by fleet operators as a battery lock and as a wheel lock. For the latter application, the locks are supplied in sets of five units that can be opened by the same key. *Write: Wise-Lock, 1672 East 118 Street, Cleveland 6, Ohio.*

Brake Repair Kits

Gives top coverage of popular master and wheel cylinders

Airtex Products, Master Parts Division: A merchandising cabinet assortment, (MK-101) of



"Blue Ribbon" brake cylinder repair kits has been announced. Kits included in the new assortment are said to cover 92.8 percent of wheel cylinder repairs and 76 percent of master cylinder repair needs. Brake cylinder repair kits are complete, include all necessary quality replacement parts. There are 44 wheel cylinder and 14 master cylinder repair kits in MK-101. *Write: Master Parts Division, Fairfield, Illinois.*

Tissue Dispenser

Available for all Chevrolet cars



Chevrolet Motor Division, General Motors Corporation: A combination tissue dispenser and litter container that is more accessible to front seat passengers now is available for all Chevrolet passenger cars. Easily installed, the gray plastic unit

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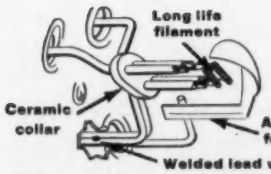
COMPLETE TUNG-SOL HEAVY DUTY LINE CREATES

New Standards for Lighting Dependability



Heavy Duty performance comes from Tung-Sol Filament Design

The most durable headlamp filaments ever developed provide the extra long life characteristic of Tung-Sol Heavy Duty Headlamps.



Sturdy twin filaments, made of special thoriated wire and connected in series, deliver up to *three* times more service.



631
1155
1898

Double-anchored filament of thoriated wire provides *triple* average service life.



1895

High impact-resistant filament helps to produce service life up to *three times* ordinary lamps.



1156
1157

Up to 6 Lamp Signaling Capacity

535 536 537 550



Tung-Sol Heavy Duty Flashers provide exceptionally long life in meeting signaling requirements from two to six lamps.

Now you can provide your fleet accounts with a complete line of lamps and flashers designed expressly for the extremely rough service conditions encountered by trucks, off-highway equipment, police, fire, emergency vehicles and passenger car fleets. Suggest to your fleet accounts that they install this complete line on each vehicle.

TUNG-SOL®
HEAVY DUTY
LAMPS • FLASHERS

1961 Tune Up—Alignment Specifications

MAKE AND MODEL	No. of cylinders Bore and (In.)	ENGINE: Maximum Brake H.P.	ENGINE: Spark Plug Make and Size (mm.)	TUNE-UP DATA: VALVES: Seat Angle: Inlet (Deg.)	TUNE-UP DATA: VALVES: Seat Angle: Exhaust (Deg.)	TUNE-UP DATA: VALVES: Clearance Tappet Operating: Inlet (In.)	TUNE-UP DATA: VALVES: Clearance Tappet Operating: Exhaust (In.)	TUNE-UP DATA: IGNITION: Breaker Point Gap (In.)	TUNE-UP DATA: IGNITION: Cam Angle (Deg.)	TUNE-UP DATA: IGNITION: Spark Plug Gap (In.)	TUNE-UP DATA: IGNITION: Timing: Spark Occurs T.C.	FRONT END ALIGNMENT: Steering Axis Inclination (Deg.)	FRONT END ALIGNMENT: Caster (Deg.)	FRONT END ALIGNMENT: Camber (Deg.)	FRONT END ALIGNMENT: Toe-in (In.)
AMERICAN MOTORS CORP.															
Rambler.....American (Deluxe & Super)	6-3 1/16 x4 1/4	90	CA-14	45	45	.018C	.018C	.020	39	.035	3B	8	0 to 1/2P	1/4N to 1/4P	1/16 to 1/8
.....American (Custom)	6-3 1/16 x4 1/4	125	CA-14	45	45	.012H	.016H	.016	32	.035	8B	8	0 to 1/2P	1/4N to 1/4P	1/16 to 1/8
.....Classic	6-3 1/16 x4 1/4	127	CA-14	45	45	.012H	.016H	.016	32	.035	8B	6°11′	0 to 1/2P	1/4N to 1/4P	1/16 to 1/8
.....Classic	8-3 1/2 x3 1/4	200	CA-14	30	45	.012H	.014H	.017	30	.035	TC	6°11′	0 to 1/2P	1/4N to 1/4P	1/16 to 1/8
.....Ambassador	8-4x3 1/4	250	CA-14	30	45	Hyd	Hyd	.017	30	.035	TC	6°11′	0 to 1/2P	1/4N to 1/4P	1/16 to 1/8
CHECKER MOTORS CORP.															
Checker.....Superba, Marathon	6-3 7/16 x4 3/8	80	Ch-18	30	44	.014H	.014H	.020	39	.029	4B	7	2P	1/2P to 1 1/2P	1/16 to 1/8
.....Superba, Marathon (Engine Option)	6-3 7/16 x4 3/8	122	Ch-14	30	44	.017H	.023H	.020	39	.033	3 1/2B	7	2P	1/2P to 1 1/2P	1/16 to 1/8
CHRYSLER CORP.															
Chrysler.....Newport	8-4 1/16 x3 7/16	265	AL-14	45	45	Hyd	Hyd	.017	30	.035	10B	6 1/2	0 to 1N	1/4P to 3/4P[2]	1/16 to 1/8
.....Windsor	8-4 1/4 x3 7/8	305	AL-14	45	45	Hyd	Hyd	.017	30	.035	10B	6 1/2	0 to 1N	1/4P to 3/4P[2]	1/16 to 1/8
.....New Yorker	8-4 1/16 x3 3/4	350	AL-14	45	45	Hyd	Hyd	.017	30	.035	10B	6 1/2	1/4P to 1 1/4P	1/4P to 3/4P[2]	1/16 to 1/8
.....300-G	8-4 1/16 x3 3/4	375	AL-14	45	45	Hyd	Hyd	.017	30	.035	5B	6 1/2	1/4P to 1 1/4P	1/4P to 3/4P[2]	1/16 to 1/8
DeSoto	8-4 1/16 x3 7/16	265	AL-14	45	45	Hyd	Hyd	.017	30	.035	10B	6 1/2	0 to 1N	1/4P to 3/4P[2]	1/16 to 1/8
Dodge.....Polara	8-4 1/16 x3 7/16	265	AL-14	45	45	Hyd	Hyd	.017	30	.035	10B	6 1/2	0 to 1N	1/4P to 3/4P[2]	1/16 to 1/8
.....Polara (Engine Option)	8-4 1/16 x3 7/16	325	AL-14	45	45	Hyd	Hyd	.017	30	.035	7 1/2B	6 1/2	0 to 1N	1/4P to 3/4P[2]	1/16 to 1/8
Dodge Dart.....Seneca, Pioneer, Phoenix	6-3 11/16 x4 1/16	145	AL-14	45	46	.010H	.010H	.020	43	.035	2 1/2B	6 1/2	0 to 1N	1/4P to 3/4P[2]	1/16 to 1/8
.....Seneca, Pioneer, Phoenix	8-3 27/32 x3 7/16	230	AL-14	45	45	.010H	.018H	.017	30	.035	5B	6 1/2	0 to 1N	1/4P to 3/4P[2]	1/16 to 1/8
Seneca, Pioneer, Phoenix (Engine Option)	8-4 27/32 x3 7/16	305	AL-14	45	45	Hyd	Hyd	.017	30	.035	10B	6 1/2	0 to 1N	1/4P to 3/4P[2]	1/16 to 1/8
Seneca, Pioneer, Phoenix (Engine Option)	8-4 1/4 x3 7/16	325	AL-14	45	45	Hyd	Hyd	.017	30	.035	7 1/2B	6 1/2	0 to 1N	1/4P to 3/4P[2]	1/16 to 1/8
Seneca, Pioneer, Phoenix (Engine Option)	8-4 1/16 x3 3/4	350	AL-14	45	45	Hyd	Hyd	.017	30	.035	7 1/2B	6 1/2	0 to 1N	1/4P to 3/4P[2]	1/16 to 1/8
Dodge Lancer.....170, 770	6-3 11/16 x3 1/16	101	AL-14	46	46	.010H	.020H	.020	43	.035	2 1/2B	7 1/2	0 to 1N	1/4P to 3/4P[2]	1/16 to 1/8
.....170, 770 (Engine Option)	6-3 11/16 x4 1/16	145	AL-14	46	46	.010H	.020H	.020	43	.035	2 1/2B	7 1/2	0 to 1N	1/4P to 3/4P[2]	1/16 to 1/8
Imperial.....Custom, Crown, Le Baron	8-4 1/16 x3 7/16	350	AL-14	45	45	Hyd	Hyd	.017	30	.035	10B	6 1/2	1/4P to 1 1/4P	1/4P to 3/4P[2]	1/16 to 1/8
Plymouth.....Savoy, Belvedere, Fury	6-3 11/16 x4 1/16	145	AL-14	46	46	.010H	.020H	.020	43	.035	2 1/2B	6 1/2	0 to 1N	1/4P to 3/4P[2]	1/16 to 1/8
.....Savoy, Belvedere, Fury	8-3 27/32 x3 7/16	230	AL-14	45	45	.010H	.018H	.017	30	.035	5B	6 1/2	0 to 1N	1/4P to 3/4P[2]	1/16 to 1/8
..Savoy, Belvedere, Fury (Engine Option)	8-4 1/16 x3 7/16	305	AL-14	45	45	Hyd	Hyd	.017	30	.035	10B	6 1/2	0 to 1N	1/4P to 3/4P[2]	1/16 to 1/8
..Savoy, Belvedere, Fury (Engine Option)	8-4 1/4 x3 7/16	325	AL-14	45	45	Hyd	Hyd	.017	30	.035	7 1/2B	6 1/2	0 to 1N	1/4P to 3/4P[2]	1/16 to 1/8
..Savoy, Belvedere, Fury (Engine Option)	8-4 1/16 x3 3/4	350	AL-14	45	45	Hyd	Hyd	.017	30	.035	7 1/2B	6 1/2	0 to 1N	1/4P to 3/4P[2]	1/16 to 1/8
Valiant.....V-100, V-200	6-3 11/16 x3 1/16	101	AL-14	46	46	.010H	.020H	.020	43	.035	2 1/2B	7 1/2	0 to 1N	1/4P to 3/4P[2]	1/16 to 1/8
FORD MOTOR CO.															
Comet	6-3 1/16 x2 1/16	85	Ch-18	45	45	.018H	.018H	.025	37	.034	6B	7	1P to 1 1/4P	1/4P to 3/4P	1/4 to 1/8
.....(Engine Option)	6-3 1/16 x2 1/16	101	Ch-18	45	45	.018H	.018H	.025	37	.034	6B	7	1P to 1 1/4P	1/4P to 3/4P	1/4 to 1/8
Falcon	6-3 1/16 x2 1/16	85	Ch-18	45	45	.018H	.018H	.025	37	.034	6B	7	1 1/4P to 2P	3/4P to 1 1/4P	1/4 to 1/8
.....(Engine Option)	6-3 1/16 x2 1/16	101	Ch-18	45	45	.018H	.018H	.025	37	.034	6B	7	1 1/4P to 2P	3/4P to 1 1/4P	1/4 to 1/8
Ford.....Fairlane, Fairlane 500, Galaxie	6-3 5/8 x3 1/16	135	Ch-18	45	45	.019H	.019H	.025	37	.034	4B	6 3/4	1/2N to 1/4P	1/4P to 1P	1/8 to 1/4
.....Fairlane, Fairlane 500, Galaxie	8-3 5/8 x3 11/16	175	Ch-18	45	45	.018H	.018H	.015	27	.034	3B	6 3/4	1/2N to 1/2P	1/4P to 1P	1/8 to 1/4
.....Fairlane, Fairlane 500, Galaxie (Engine Option)	8-4x3 1/2	220	Ch-18	45	45	Hyd	Hyd	.015	27	.034	3B	6 3/4	1/2N to 1/2P	1/4P to 1P	1/8 to 1/4
.....Fairlane, Fairlane 500, Galaxie (Engine Option)	8-4 3/8 x3 3/16	300	Ch-18	45	45	Hyd	Hyd	.015	27	.034	3B	6 3/4	1/2N to 1/2P	1/4P to 1P	1/8 to 1/4
Lincoln Continental	8-4 1/16 x3 3/16	300	2Ch-18	45	45	Hyd	Hyd	.015	27	.034	6B	7	0 to 1 1/4N	0 to 1/4P	1/8 to 1/4
Mercury.....Meteor 600, 800	6-3 5/8 x3 1/16	135	2Ch-18	45	45	.019H	.019H	.026	37	.034	4B	6 3/4	1/2N to 1/2P	1/4P to 1P	1/8 to 1/4
.....Meteor 600, 800; Monterey	8-3 3/4 x3 11/16	175	2Ch-18	45	45	.018H	.018H	.015	27	.034	3B	6 3/4	1/2N to 1/2P	1/4P to 1P	1/8 to 1/4
.....Meteor 600, 800; Monterey (Engine Option)	8-4x3 1/2	220	Ch-18	45	45	Hyd	Hyd	.015	27	.034	3B	6 3/4	1/2N to 1/2P	1/4P to 1P	1/8 to 1/4
...Meteor 800, Monterey (Engine Option)	8-4 1/16 x3 3/16	300	Ch-18	45	45	Hyd	Hyd	.015	27	.034	3B	6 3/4	1/2N to 1/2P	1/4P to 1P	1/8 to 1/4
Thunderbird	8-4 1/16 x3 3/16	300	2Ch-18	45	45	Hyd	Hyd	.015	27	.034	6B	6 3/4	1/4N to 1 1/4N	0 to 1P	1/8 to 1/4
GENERAL MOTORS CORP.															
Buick.....Special	8-3 1/16 x2 13/16	155	AC-14	45	45	Hyd	Hyd	.016	30	.033	7 1/2B	7 1/2	3/4N to 1 3/4N	3/16N to 3/16P	1/16 to 1/8
.....Le Sabre	8-4 1/16 x3 13/16	250	AC-14	45	45	Hyd	Hyd	.016	30	.033	12B	9°52′	1/2N to 1 1/2N	0 to 3/4P	1/16 to 1/8
.....Invicta, Electra, Electra 225	8-4 3/8 x3 13/16	325	AC-14	45	45	Hyd	Hyd	.016	30	.033	12B	9°52′	1/2N to 1 1/2N	0 to 3/4P	1/16 to 1/8
Cadillac.....60, 62, 63, 75	8-4x3 7/16	325	AC-14	44	44	Hyd	Hyd	.016	30	.035	5B	6	1/2N to 1 1/2N	1/4P to 3/4P[2]	1/16 to 1/8
Chevrolet.....Biscayne, Bel Air, Impala	6-3 7/8 x3 1/16	135	AC-14	31	46	Hyd	Hyd	.019	32	.036	5B	7°11′	1/2N to 1/2P	0 to 1P	1/16 to 1/8
.....Biscayne Fleetmaster	6-3 7/16 x3 1/16	135	AC-14	31	46	.009H	.016H	.019	32	.036	5B	7°11′	1/2N to 1/2P	0 to 1P	1/16 to 1/8
.....Biscayne, Biscayne Fleetmaster, Bel Air, Impala	8-3 7/16 x3	170	AC-14	46	46	Hyd	Hyd	.019	30	.036	6B	7°11′	1/2N to 1/2P	0 to 1P	1/16 to 1/8
Biscayne, Biscayne Fleetmaster, Bel Air, Impala (Engine Option)	8-4 1/16 x3 1/4	250	AC-14	46	46	Hyd	Hyd	.019	30	.036	7B	7°11′	1/2N to 1/2P	0 to 1P	1/16 to 1/8
Biscayne, Biscayne Fleetmaster, Bel Air, Impala (Engine Option)	8-4 7/16 x3 1/16	360	AC-14	46	46	.008H	.018H	.019	30	.036	12B	7°11′	1/2N to 1/2P	0 to 1P	1/16 to 1/8
Corvair.....500, 700, 900	6-3 1/16 x2 1/16	80	AC-14	45	45	Hyd	Hyd	.019	33	.035	7B	7	3P to 3 1/2P	0 to 1P	1/8 to 1/4
Corvette	8-3 7/16 x3	230	AC-14	46	46	Hyd	Hyd	.019	30	.036	4B	4	1 1/2P to 2 1/2P	1/2N to 1/4P	0 to 1/8
Oldsmobile.....F-85	8-3 11/16 x2 13/16	155	AC-14	45	45	Hyd	Hyd	.016	30	.040	5B	7 1/2	1/2N to 1 1/2N	0 to 3/4P	1/4
.....88	8-4 1/16 x3 1/16	250	AC-14	45	45	Hyd	Hyd	.016	30	.030	5B	10	0 to 1N	1/4N to 3/4P	0 to 1/8
.....Super 88, 98	8-4 1/16 x3 1/16	325	AC-14	45	45	Hyd	Hyd	.016	30	.030	5B	10	0 to 1N	1/4N to 3/4P	0 to 1/8
Pontiac.....Catalina, Ventura, Star Chief	8-4 1/16 x3 3/4	215	AC-14	30	45	Hyd	Hyd	.016	30	.036	6B	4°50′	1N to 2N	1/4N to 3/4P	0 to 1/8
.....Bonneville	8-4 1/16 x3 3/4	235	AC-14	30	45	Hyd	Hyd	.016	30	.036	6B	4°50′	1N to 2N	1/4N to 3/4P	0 to 1/8
Tempest	4-4 1/16 x3 3/4	110	AC-14	30	45	Hyd	Hyd	.016	75	.036	6B	6°50′	3/4N to 1 1/4N	1/4P to 1 1/4P	0 to 1/8
.....(Engine Option)	8-3 1/2 x2 13/16	155	AC-14	46	46	Hyd	Hyd	.016	30	.032	5B	6°50′	3/4N to 1 1/4N	1/4P to 1 1/4P	0 to 1/8
STUDEBAKER-PACKARD CORP.															
Studebaker.....Lark-6	6-3x4	112	Ch-14	45	45	.024H	.024H	.020	39	.038	2B	6	3/4N to 3/4P	0 to 1P	1/16 to 1/8
.....Lark-8	8-3 7/16 x3 1/4	180	Ch-14	45	45	.024H	.024H	.016	30	.038	4B	6	3/4N to 3/4P	0 to 1P	1/16 to 1/8
.....Lark Cruiser (Engine Option)	8-3 7/16 x3 5/16	200	Ch-14	45	45	.024H	.024H	.016	30	.038	4B	6	3/4N to 3/4P	0 to 1P	1/16 to 1/8
.....Hawk	8-3 7/16 x3 5/16	210	Ch-14	45	45	.024H	.024H	.016	30	.038	4B	6	1N to 2 1/2N	0 to 1P	1/16 to 1/8

ABBREVIATIONS

1—Aluminum block engines have hydraulic valve lifters.

2—Left side only; right side, 0 to 1/4P.

3—Left side only; right side, 1/4P to 3/4N.

AC—A.C. Spark Plug Div.

AL—Autolite.

B—Before top center.

C—Cold.

C-A—Champion or Autolite.

Ch—Champion.

H—Hot.

Hyd—Hydraulic valve lifters.

N—Negative.

P—Positive.

TC—Top center.

Thinking Out Strong



THE "MAN" IN THE MANAGER

THERE is one faculty which all men possess. It's his own individuality. . . the "man" in the manager. The man who attracts the confidence of his customers. It isn't that some have this gift and some haven't. . . it is that some use it and some don't.

A good manager knows his business . . . the business of serving the motoring public at a profit. It's the business of organizing his work and working his organization. To realize a satisfactory profit on service work he must know the cost of each job. Labor, materials and overhead are the three main elements of cost. He gets the cost of materials from his supplier's invoice. Labor costs are either flat rate or hourly. So far so good.

Overhead expense is a little more difficult. Some charge overhead on a percentage basis. You could be wrong in doing this. Suppose the volume of a current period is lower than that period from which the percentage was figured. The overhead charge would be too low and the operator loses money.

Time is the better way to figure overhead expenses. Unlike percentage, time never changes. For example, say your total overhead is $600 a month and you have two men, each working eight hours a day for 25 working days a month. Eight times 25 is 200 hours of labor per man each month . . . . 400 hours for two men.

Each labor hour would therefore carry $1.50 in overhead expense (400 hours divided into $600 overhead). If the two men put in 16 hours on a job, $24 of overhead expense is consumed on the work. Add $24 overhead to the cost of labor and materials and the good manager then has the over-all cost of the job.

He has paid out the overhead expense and labor and material cost, so the customer should pay it back—*plus a profit.*

GOOD CAR*KEEPING MONTH

We are in the midst of Good Car*Keeping month sponsored by the non-profit Institute of the same name. Good Car*Keeping is a prosperity-creating consumer-selling idea, the Institute points out.

In an overproduced (or under-consumed) economy, Distribution is King, Price is Queen, and Quality, Service and Profit are but Stepchildren.

Help establish in the car owners' minds a desire to care for and maintain cars for safe, thrifty and more-pleasant driving.

Faithfully yours,

Frank P. Tighe

CHILTON MANUALS PAGE

Some Straight Talk On 4,000 Mile Oil Changes



By Paul A. Murphy
Editor of Chilton's
Flat Rate and
Auto Repair Manuals

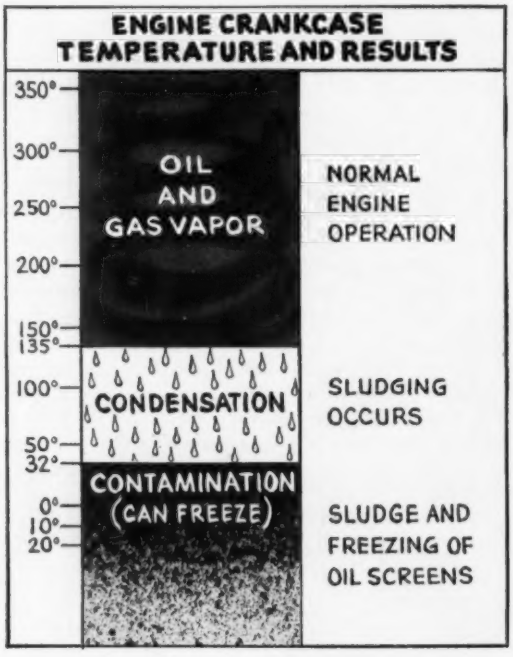
I don't know how many times I have been asked; when should I change oil in my car? And, I am sure most garage men who are dealing with the public are asked the same question.

In the past year, the motoring public has been led to believe that engine oil can last up to 4,000 miles. This of course is true providing the vehicle is driven in such a manner as to create a crankcase temperature of 135 degrees or better. If a car owner uses his car on short stop-and-go driving such as to school, shopping trips, short trips back and forth to work, or any type driving where the crankcase temperature is less than 135 degrees, he could be in for trouble.

Sludge formation at low temperatures is a close second to dirt in causing engine damage and wear. Sludge is formed by the cylinder combustion gases mixing with the fine oil mist in the crankcase and condensing on a cold metal surface. This condensation forms both a sulphuric and a sulphurous acid which combines with the oil to become a highly injurious sludge. When crankcase temperatures are higher than 135 degrees Fahrenheit the contaminated gases remain in gaseous form and the engine operates clean as long as the breather system is kept in working order. However, when a vehicle is operated with crankcase temperatures below 135 degrees, an injurious sludge condition will result. This is why you cannot use mileage on a speedometer or the color of the oil on dipstick as a barometer to oil changes.

Most of the better oils on the market today do have a capacity for keeping engine sludge in suspension rather than to allow it to accumulate on the non-moving parts of the engine. However, it is virtually impossible for any oil, or any oil additive, to overcome extreme engine sludge conditions. The only positive way to virtually eliminate sludge, particularly on these vehicles that are custo-

Continued on page 111



1961 New Passenger Car Registrations*

STATE		Buick	Cadillac	Chevrolet	Chrysler	Comet	Dodge	Ford	Imperial	Lincoln	Mercury	Oldsmobile	Plymouth	Pontiac	Rambler	Studebaker	All Others U.S.	All Others Foreign	Total
Alabama	Feb.	234	89	1532	53	140	169	1137	11	25	75	245	189	288	256	37	3	822	5083
	2 Mos.	477	174	3029	115	318	361	2392	20	47	145	474	405	545	515	78	11	930	10036
Alaska	Feb.	12	11	59	5	26	2	48	---	1	3	2	17	1	8	2	1	18	216
	2 Mos.	23	18	123	12	30	10	121	4	1	12	16	53	24	22	12	2	75	558
Arizona	Feb.	43	64	489	14	73	61	324	1	14	20	91	63	83	120	17	---	99	1576
	2 Mos.	161	155	1388	51	219	212	861	10	39	81	255	230	256	348	135	---	237	4638
Arkansas	Feb.	168	79	1339	53	136	171	1169	4	13	87	242	175	293	196	28	9	192	4356
	2 Mos.	397	194	2846	106	275	384	2450	9	27	207	541	392	599	470	94	14	416	9403
California	Feb.	1774	1354	11863	547	1746	1804	11468	110	738	992	2235	2178	2777	2818	578	30	4128	47140
	2 Mos.	3450	2625	21914	1077	3454	3404	21599	238	1317	1945	4380	4281	5030	5605	1386	81	7717	89483
Colorado	Feb.	155	90	1111	77	104	158	1006	10	25	111	204	227	229	237	56	2	212	4014
	2 Mos.	332	230	2478	159	227	347	2120	26	65	254	509	485	492	563	136	12	450	8885
Connecticut	Feb.	176	132	1166	76	232	188	1064	10	31	101	240	337	353	421	102	3	576	5208
	2 Mos.	392	291	2398	190	414	373	2055	21	71	240	568	684	744	913	268	15	1189	10807
Delaware	Feb.	48	37	368	21	26	37	319	1	6	17	56	56	50	53	5	2	87	1189
	2 Mos.	120	69	847	46	63	140	683	4	10	61	145	134	179	154	24	7	203	2888
Dist. of Columbia	Feb.	35	36	257	16	27	56	250	2	14	24	82	98	67	59	14	5	83	1103
	2 Mos.	77	117	734	49	77	134	649	9	30	84	183	248	190	148	439	6	249	3393
Florida	Feb.	674	617	3713	146	506	479	3324	41	123	183	716	686	765	856	146	15	1910	14899
	2 Mos.	1570	1310	8472	322	1174	1088	7576	99	304	518	1703	1622	1865	2085	351	45	3737	33842
Georgia	Feb.	341	169	2197	101	254	250	2211	11	24	123	371	451	542	279	65	10	779	8276
	2 Mos.	900	371	5240	220	602	624	5039	34	64	325	910	1020	1484	742	166	32	1729	19502
Hawaii	Feb.	32	16	330	26	31	48	331	---	4	8	56	160	62	51	11	1	218	1385
	2 Mos.	85	33	737	39	70	90	671	4	10	22	113	343	145	121	18	2	395	2898
Idaho	Feb.	68	35	243	25	37	58	231	7	3	38	76	46	85	113	28	5	102	1201
	2 Mos.	151	95	567	56	82	156	524	14	13	88	178	103	190	262	60	8	189	2756
Illinois	Feb.	1604	889	7891	408	543	843	5247	69	141	612	1690	1305	2193	1511	304	55	1047	26352
	2 Mos.	3417	1916	16762	935	1212	1825	10999	164	389	1308	3755	2786	4885	3281	709	109	2199	56681
Indiana	Feb.	404	195	1925	137	147	336	1628	19	44	141	505	382	567	495	227	27	394	7483
	2 Mos.	884	419	4286	269	315	712	3528	42	101	359	1122	852	1214	911	498	66	788	16346
Iowa	Feb.	261	123	1651	101	109	227	1328	12	12	144	280	398	288	345	58	7	137	5501
	2 Mos.	595	282	3403	200	237	488	2810	20	32	319	678	899	723	757	140	18	341	11663
Kansas	Feb.	290	123	1499	84	114	210	1066	11	22	132	312	217	328	283	42	11	213	4937
	2 Mos.	599	243	3077	150	231	406	2186	22	39	282	629	486	683	547	111	15	415	10081
Kentucky	Feb.	185	80	995	30	97	130	856	5	9	75	236	216	218	203	24	4	213	3576
	2 Mos.	438	153	2124	76	207	246	1900	12	17	138	477	418	530	407	58	14	457	7672
Louisiana	Feb.	198	113	1783	87	188	166	1524	17	24	86	348	208	359	219	54	6	392	5768
	2 Mos.	442	233	3722	173	385	349	3210	31	45	221	741	407	730	475	125	13	802	11994
Maine	Feb.	39	20	325	18	42	84	310	4	1	26	54	89	67	107	17	2	146	1311
	2 Mos.	101	56	693	44	95	142	690	12	4	60	111	147	175	231	49	2	318	2990
Maryland	Feb.	173	101	1896	77	199	262	1574	7	20	99	219	412	297	309	106	10	386	6079
	2 Mos.	511	240	3225	204	355	614	3456	16	44	216	572	1013	724	829	212	27	811	14090
Massachusetts	Feb.	375	296	2460	143	265	420	2247	9	53	188	505	594	536	744	121	17	1118	10088
	2 Mos.	739	539	4351	319	493	753	4029	26	100	330	1017	1023	1029	1496	241	22	1922	18433
Michigan	Feb.	1182	621	5659	203	790	790	5623	49	192	634	1268	1072	1445	856	169	19	934	21468
	2 Mos.	2267	1154	10129	417	1316	1585	10032	93	359	1115	2406	2153	2827	1524	335	96	1640	39450
Minnesota	Feb.	312	194	2066	124	162	281	1626	9	26	205	539	411	546	473	122	6	329	7431
	2 Mos.	632	397	4442	307	332	633	3430	34	71	435	1224	983	1186	1015	264	17	746	16348
Mississippi	Feb	137	61	760	28	69	64	609	5	11	57	173	117	122	91	28	4	179	2515
	2 Mos.	289	103	1561	59	117	142	1250	10	18	107	323	230	278	202	68	6	313	5096
Missouri	Feb.	397	196	2798	92	179	368	1994	10	39	167	447	434	593	413	64	7	452	8650
	2 Mos.	726	348	4801	165	305	651	3440	26	75	318	856	754	1034	771	143	18	840	15171
Montana	Feb.	68	39	345	28	41	75	281	3	5	42	98	51	68	97	16	1	74	1328
	2 Mos.	174	71	696	52	88	156	616	10	9	103	203	103	153	201	32	5	132	2803
Nebraska	Feb.	141	80	980	50	76	131	844	8	15	87	195	179	249	183	34	6	96	3354
	2 Mos.	355	165	2000	103	141	261	1831	15	39	214	460	392	511	413	92	10	224	7246
Nevada	Feb.	33	43	254	21	46	64	237	6	16	27	58	68	95	65	19	10	229	1293
	2 Mos.	42	71	433	30	82	90	364	10	32	44	90	108	149	116	30	12	294	1997
New Hampshire	Feb.	15	12	120	3	6	24	142	2	3	14	21	8	23	37	5	---	61	496
	2 Mos.	65	45	457	23	44	67	378	3	6	45	82	50	101	167	47	3	245	1830
New Jersey	Feb.	710	631	4138	366	472	643	3508	43	84	321	778	1071	988	1231	185	25	1438	16634
	2 Mos.	1410	1275	8028	799	860	1202	6685	104	212	662	1637	2045	2028	2435	412	45	2573	32412
New Mexico	Feb.	41	32	389	13	30	45	288	4	7	29	93	65	82	85	31	1	101	1316
	2 Mos.	151	80	880	45	79	115	675	10	17	82	231	162	199	225	69	4	229	3253
New York	Feb.	1188	1025	6578	657	826	1206	5827	74	182	654	1800	1777	1811	1797	378	80	2230	28090
	2 Mos.	3246	2613	16309	1623	2093	3096	13790	227	439	1720	4715	4493	4823	4579	1000	237	5091	70094
North Carolina	Feb.	344	124	1819	97	183	229	1918	6	22	120	319	542	481	284	54	6	496	7044
	2 Mos.	671	289	4074	242	432	568	4479	22	52	293	772	1055	1075	714	179	17	847	15981
North Dakota	Feb.	53	25	295	22	23	52	239	---	4	35	78	74	46	67	18	---	26	1057
	2 Mos.	136	63	763	69	57	129	645	2	15	114	220	162	127	167	48	2	55	2774
Ohio	Feb.	1138	535	5898	253	703	838	4748	44	94	471	1244	1057	1494	1007	188	66	845	20321
	2 Mos.	2255	1154	11164	574	1393	1724	9659	94	217	995	2598	2124	3041	2015	411	138	1875	41629
Oklahoma	Feb.	253	122	1472	51	125	160	1233	8	22	95	313	161	345	357	52	4	217	4090
	2 Mos.	465	203	2394	92	222	267	2171	22	48	152	515	336	580	586	70	12	367	8502
Oregon	Feb.	165	81	1021	48	106	177	756	3	30	66	187	188	223	325	158	3	354	3891
	2 Mos.	284	146	1798	75	205	312	1348	10	57	135	323	343	415	576	233	7	865	7132
Pennsylvania	Feb.	800	574	5036	343	636	976	4160	52	88	343	897	1147	1141	1408	366	28	1133	19128
	2 Mos.	1928	1394	11345	856	1231	2309	9324	119	210	852	2149	2613	2666	3255	857	137	2398	43843
Rhode Island	Feb.	50	44	307	31	48	57	371	2	10	19	58	129	53	118	22	3	232	1563
	2 Mos.	169	111	828	71	110	142	937	11	29	47	197	324	155	319	55	8	488	4001
South Carolina	Feb.	146	63	935	51	120	103	921	5	15	49	150	206	196	153	17	---	234	3364
	2 Mos.	351	120	1928	101	241	247	1948	12	22	102	315	384	435	332	36	4	421	6999
South Dakota	Feb.	80	23	422	34	31	63	381	6	5	50	85	99	80	96	31	1	57	1544
	2 Mos.	230	68	1212	89	74	187	1083	14	10	138	286	250	270	281	85	4	144	4385
Tennessee	Feb.	290	123	1572	65	175	187	1359	11	32	105	286	208	370	262	51	2	300	5398
	2 Mos.	608	255	3358	133	396	397	2944	22	55	251	621	491	774	588	121	14	521	11549
Texas	Feb.	936	547	6795	226	574	664	5277	41	99	297	1189	895	1222	850	214	17	1461	21304
	2 Mos.	2197	1100	13745	474	1156	1300	10803	92	231	589	2591	1764	2511	1783	468	50	2598	43452
Utah	Feb.	80	32	413	25	68	56	358	3	7	30	103	100	115	138	18	2	164	1712
	2 Mos.	195	97	750	48	128	121	681	9	15	73	187	204	244	249	32	4	292	3329
Vermont	Feb.	10	4	42	3	7	4	62	---	---	3	9	8	11	6	15	6	---	51	238
	2 Mos.	48	13	185	17	32	32	207	---	3	19	34	46	45	67	24	---	158	930
Virginia	Feb.	255	147	1820	88	210	291	1817	15	31	138	318	526	442	359	101	27	857	7440
	2 Mos.	614	322	3818	271	479	638	3879	37	73	309	715	1166	1001	748	183	58	1596	15905
Washington	Feb.	199	85	1237	80	157	265	1218	7	31	132	257	244	362	379	80	4	499	5236
	2 Mos.	457	195	2398	163	351	470	2385	20	68	270	513	516	725	839	169	15	979	10533
West Virginia	Feb.	102	63	553	34	66	78	457	5	12	56	145	149	139	124	30	5	126	2146
	2 Mos.	256	129	1261	88	126	172	1064	11	30	149	330	324	322	303	80	16	260	4941
Wisconsin	Feb.	457	250	2181	132	153	339	1759	12	58	216	523	352	517	792	100	15	421	8277
	2 Mos.	937	489	4397	270	296	660	3363	34	99	402	1053	639	1118	1589	195	21	710	16272
Wyoming	Feb.	42	27	225	12	17	39	196	3	5	29	66	51	46	46	8	---	104	906
	2 Mos.	96	53	469	30	33	75	386	8	9	59	113	98	109	94	23	1	215	1673
Total	Feb. 1961	16930	10472	100892	5427	11059	14409	86863	797	2494	7799	20437	19874	23824	21684	4807	567	26772	374877
Total	Feb. 1960	20402	12558	124745	6327	---	26051	112899	1423	2219	13483	26721	33767	29619	29123	9032	3094	42704	494178
Total	2 Mos. 1961	37515	22256	209179	12086	22954	30587	179487	1920	5291	16899	44796	42073	51308	47028	11051	1549	52366	788440
Total	2 Mos. 1960	39423	23547	227401	11803	---	46137	215553	2879	4555	25314	50502	60713	54282	55764	16902	6331	83188	924294

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How Long Will Tires Last? . . Continued from page 41

tomer of the importance of regular inspections, not only of inflation, but of mechanical difficulties of the vehicle, such as misalignment, bad caste and camber, dragging brakes, faulty shocks, wheel balance, and if he will rotate the tires for even wear, he will be making his contribution.

Unfortunately, road and weather conditions are beyond anyones control and only good judgement and luck can minimize the effects that they have on tire life.

Heat and friction are the tire's worst enemies, and they are usually caused by excessive speeds. J. J. Hartz, tire development manager at Goodyear says "In recent years there has been a subtle but definite change in the driving habits of the public, brought about by better roads, the increased comfort and maneuverability of cars, quieter-running tires and, to some extent, air conditioning.

Many drivers, he said, "consciously or subconsciously gauge their speeds not by the speedometer but by the 'feel' of the car and the noise.

"Thus, speeds increase as handling ease and noise decrease. Air conditioning in cars, accompanied by closed windows which shut out noise in the hot summer months, gives the driver a feeling of safety not necessarily relative to his speed."

Tire manufacturers are constantly striving to improve the quality of their product, and to keep pace with the developments in the automobile industry which place ever increasing burdens on the tire. A tire engineer at Seiberling Rubber Company has an interesting answer to the question of tire life. "If Model A Fords were moving off the production line today in Detroit, and if they were equipped with modern tires, they could easily run 100,000 miles before the tires would have to be retreaded or replaced. But we can take those same tires, put them on a hotrodder's souped-up 300 horsepower car, and he can wear them out in less than 10,000 miles. So what have you got? You've got a 100,000 mile tire that wears out in 8,000 miles."

No one tire can meet all special needs, and in the case of passenger tires, durability is secondary to safety and comfort. Comfort is less important in the eyes of the truck operator, whose primary interest is mileage. Safety is important to everyone.

So what's the answer? How long are tires built to last? Manufacturers can cite cases of tires on passenger cars running up to 45,000 miles before being retreaded. Some truckers have gotten more than 100,000 original miles and 50,000 each on three or four or five retreads. But, tire makers can also show you casings that failed in several hundred miles or tread that ran smooth in a few thousand. And all of these tires were produced in the same factories and with the same materials.

A tire's life is measured in miles, not years, and like people, if they live hard and fast, they could die young. So, it's really up to your customer and the care that he gives his tires. One tire engineer sums it up, "The hotrodder and the careless trucker send their tires to the graveyard at an early age. The care-conscious motorist and truck fleet operator watch their tires perform perfectly to a ripe old age." But, what that "ripe old age" may be is anybody's guess.

Calendar of Coming Events

June 15–17—IGO of California Annual Convention, El Dorado Hotel, Sacramento, Calif.

June 28–July 1—IGOA Annual Convention, Lowry Hotel, St. Paul, Minn.

July 23–28—National Congress of Petroleum Retailers, Inc., 15th Annual Session, Cosmopolitan Hotel, Denver, Colo.

Feb. 3–7, 1962—National Automobile Dealers Association Convention & Exhibition, Convention Hall, Atlantic City, N.J.

Feb. 28–Mar. 3—International Automotive Service Industries Show, Navy Pier, Chicago, Illinois.

Indy's All For You . . Continued from page 45

"We used to take off a lead from the main scavenging line on the oil return to the tank. Under certain conditions, this resulted in foamy and inadequate oil reaching the camshafts. In some cases, the valve tappets didn't get enough lubrication.

"Our new design takes the oil directly off the high pressure line. This insures solid oil at the tappets and camshaft bearings. We get pressure control by the regulator valve in conjunction with a restricted jet," Mr. Goossen says.

Some cars will have power steering. To drive the hydraulic pump, M&D designed and built a new crankcase front end cover. It will mount the pump along with an extension shaft off a timing gear for the drive.

Those owners who aren't installing power steering, will use this same new cover to mount their fuel pump.

Since the engine's inception, dural buttons have retained the connecting rod pins. To lighten the piston pins somewhat, and in certain cases to cut down on button wear, Spirolox snap rings may replace the buttons. A number of engines with M&D pistons will have this type retainer.

Valve timing and the .440 valve lift will be the same as last year. Compression ratios still range 14.5:1 and 15:1, using methanol fuel.

When racing enthusiasts get together, talk usually leads to the Meyer & Drake engine. We thought you'd like to have these brief specs: 255 cu. in. with bore 4.281, stroke 4.375, piston displacement 251 cu. in. Horsepower 400 at 6500 r.p.m. Four valves per cylinder. Two overhead camshafts driven by a train of spur gears. Cast-iron cylinder with integrally-cast, head-barrel-type crankcase with five main bearings bolted to webs in the case.

Other M&D engine features: duplex oil pump, both scavenging and pressure; magneto ignition; and fuel injection.

Young builder A. J. Watson, Glendale, Calif., has two new cars

Continued on page 78

CURRENT PASSENGER CAR PRICE, WEIGHT AND BODY TABLE

Following are prices at factory for cars with standard equipment as of April 15, 1961
State or local taxes, transportation and finance charges and optional equipment are extra.

BODY MAKE AND MODEL	List Price at Factory without Federal Taxes	Federal Taxes and Handling Charges	Suggested Price at Factory including Federal Taxes	Shipping Weight
AMERICAN MOTOR CORP.				
RAMBLER				
American-6				
DeLuxe				
Sedan, 2d.	1684	161	1845	2504
Sedan, 4d.	1730	164	1894	2541
Sta. Wagon, 2d.	1902	178	2080	2552
Sta. Wagon, 4d.	1948	181	2129	2595
Super-6				
Sedan, 2d.	1763	167	1930	2506
Sedan, 4d.	1809	170	1979	2544
Sta. Wagon, 2d.	1981	184	2165	2554
Sta. Wagon, 4d.	2027	187	2214	2620
Custon-6				
Sedan, 2d.	1684	176	2060	2557
Sedan, 4d.	1929	180	2109	2594
Sta. Wag., 2d.	2102	193	2295	2612
Sta. Wag., 4d.	2148	196	2344	2671
Convertible	2170	199	2369	....
Classic-6				
DeLuxe				
Sedan, 4d.	1918	180	2098	2915
Sta. Wag., 4d, 2s.	2233	204	2437	3047
Super				
Sedan, 4d.	2071	197	2268	2933
Sta. Wag., 4d, 2s.	2354	218	2572	3066
Sta. Wag., 4d, 3s.	2473	224	2697	3121
Custom				
Sedan, 4d.	2206	207	2413	2863
Sta. Wag., 4d, 2s.	2489	228	2717	2969
Sta. Wag., 5d, 3s.	2608	234	2842	3048
Classic-V8				
Super				
Sedan, 4d.	2191	206	2397	3255
Sta. Wag., 4d, 2s.	2474	227	2701	3376
Sta. Wag., 5d, 3s.	2583	233	2826	3430
Custom				
Sedan, 4d.	2298	214	2512	3262
Sta. Wag., 4d, 2s.	2581	235	2816	3378
Sta. Wag., 5d, 3s.	2700	241	2941	3437
Ambas.-V8				
Super				
Sedan, 4d.	2323	214	2537	3361
Sta. Wag., 4d, 2s.	2606	235	2841	3493
Sta. Wag., 5d, 3s.	2725	241	2966	3553
Custom				
Sedan, 4d.	2458	224	2682	3380
Sta. Wag., 4d, 2s.	2741	245	2986	3495
Sta. Wag., 5d, 3s.	2860	251	3111	3561
CHECKER MOTORS				
Superba				
Sedan, 4d.	....	...	2542	3320
Sta. Wag., 4d.	....	...	2896	3570
Marathon				
Sedan, 4d.	....	...	2650	3345
Sta. Wag., 4d.	....	...	3004	3615
CHRYSLER CORP.				
CHRYSLER				
Newport				
Sedan, 4d.	2693	271	2964	3710
Hardtop, 2d.	2750	275	3025	3690
Hardtop, 4d.	2824	280	3104	3730
Convertible	3137	305	3442	3760
Sta. Wag., 2s.	3230	311	3541	4070
Sta. Wag., 3s.	3305	317	3622	4155
Windsor				
Sedan, 4d.	2920	298	3218	3730
Hardtop, 2d.	2999	304	3303	3710
Hardtop, 4d.	3059	308	3367	3785
New Yorker				
Sedan, 4d.	3752	371	4123	4055
Hardtop, 2d.	3800	375	4175	4065
Hardtop, 4d.	3880	381	4261	4100
Convertible	4188	404	4592	4070
Sta. Wag., 2s.	4348	416	4764	4425
Sta. Wag., 3s.	4448	423	4871	4455
300-G				
Hardtop, 2d.	4952	459	5411	4260
Convertible	5352	489	5841	4315
DE SOTO				
Hardtop, 2d.	2827	275	3102	....
Hardtop, 4d.	2888	279	3167	....
DODGE DART‡				
Seneca-V8				
Sedan, 2d.	2187	210	2397	3470
Sedan, 4d.	2235	214	2449	3515
Sta. Wag., 4d, 6p	2575	240	2815	3920
Pioneer-V8				
Sedan, 2d.	2310	220	2530	3460
Sedan, 4d.	2355	223	2578	3510
Hardtop, 2d.	2382	225	2607	3500
Sta. Wag., 4d, 6p	2660	246	2906	3940
Sta. Wag., 4d, 9p	2758	253	3011	4005
Phoenix-V8				
Sedan, 4d.	2482	233	2715	3535
Hardtop, 2d.	2503	234	2737	3520
Hardtop, 4d.	2558	238	2796	3555
Convertible	2736	252	2988	3580
DODGE				
Polara-V8				
Sedan, 4d.	2708	280	2988	3700
Hardtop, 2d.	2767	285	3032	3690
Hardtop, 4d.	2840	270	3110	3740
Convertible	2972	280	3252	3765
Sta. Wagon, 6p.	3011	283	3294	4115
Sta. Wagon, 9p.	3118	291	3409	4125
IMPERIAL				
Custom				
Southampt., 2d.	4481	442	4923	4715
Southampt., 4d.	4654	455	5109	4740
Crown				
Southampt., 2d.	4928	475	5403	4790
Southampt., 4d.	5155	492	5647	4855
Convertible	5273	501	5774	4865
Le Baron				
Southampt., 4d.	5870	556	6426	4875
LANCER				
170				
Sedan, 2d.	1832	175	2007	2585
Sedan, 4d.	1889	180	2069	2595
Wagon, 6p.	2179	203	2382	2780
770				
Sedan, 4d.	1968	186	2154	2605
Hardtop, 2d.	1993	188	2181	2595
Wagon, 6p.	2257	209	2466	2775
PLYMOUTH††				
Savoy-V8				
Sedan, 2d.	2170	209	2379	3440
Sedan, 4d.	2217	213	2430	3465
Belvedere-V8				
Sedan, 2d.	2290	218	2508	3450
Sedan, 4d.	2337	222	2559	3470
Hardtop, 4d.	2357	223	2580	3480
Fury-V8				
Sedan, 4d.	2483	231	2884	3515
Hardtop, 2d.	2485	233	2718	3520
Hardtop, 4d.	2538	237	2775	3555
Convertible	2717	250	2967	3535
Suburban-V8				
DeLuxe, 2d, 6p.	2488	233	2721	3945
DeLuxe, 4d, 6p.	2560	238	2798	3985
Custom, 4d, 6p.	2636	244	2880	3985
Custom, 4d, 9p.	2738	252	2990	3985
Sport, 4d, 6p.	2770	254	3024	3890
Sport, 4d, 9p.	2872	262	3134	3985
VALIANT				
V-100				
Sedan, 2d.	1782	171	1953	....
Sedan, 4d.	1838	176	2014	....
Sta. Wag., 2s.	2128	199	2327	....
V-200				
Sedan, 4d.	1927	183	2110	....
Hardtop, 2d.	1952	185	2137	....
Sta. Wag., 2s.	2217	206	2423	....
FORD MOTOR CO.				
COMET				
Sedan, 2d.	1830	168	1998	2389
Sedan, 4d.	1880	173	2053	2432
Sta. Wag., 2d.	2119	191	2310	2548
Sta. Wag., 4d.	2158	...	....	2581
FALCON				
Tudor	1746	166	1912	2259
Fordor	1803	171	1974	2288
Sta. Wagon, 2d.	2036	189	2225	....
Sta. Wagon, 4d.	2074	194	2268	....
FORD†				
Fairlane-V8				
Tudor Sedan	2163	214	2377	3565
Fordor Sedan	2213	218	2431	3683
Fairlane 500-V8				
Tudor Sedan	2270	222	2492	3800
Fordor Sedan	2320	226	2546	3891
Galaxie-V8				
Tudor Sedan	2420	232	2652	3586
Fordor Sedan	2470	236	2706	3668
Club Vict.	2476	237	2713	3643
Town Vict.	2536	242	2778	3686
Starliner	2476	237	2713	3615
Sunliner	2708	255	2963	3792
Sta. Wag.-V8				
Tudor Ranch	2465	237	2702	3914
Fordor Ranch	2530	242	2772	4009
Ctry. Sed., 4d, 6p	2619	249	2868	4032
Ctry. Sed., 4d, 9p	2717	255	2972	4060
Ctry. Squire, 6p.	2796	262	3057	....
Ctry Squire	2860	267	3127	4084
FORD MOTOR CO., cont'd				
THUNDERBIRD				
Hardtop	3425	329	3755	3799
Convertible	3860	362	4222	3897
LINCOLN				
Continental				
Sedan, 4d.	5565	502	6067	4827
Convertible	6166	547	6713	5215
MERCURY				
Meteor-6				
800				
Sedan, 2d.	2201	216	2417	3549
Sedan, 4d.	2251	220	2471	3616
800				
Sedan, 2d.	2367	228	2595	3582
Sedan, 4d.	2417	232	2649	3664
Hardtop, 2d.	2423	233	2656	3596
Hardtop, 4d.	2483	238	2721	3682
Sta. Wag.	2562	244	2806	....
Meteor-S				
600				
Sedan, 2d.	2309	224	2533	3647
Sedan, 4d.	2359	228	2587	3714
800				
Sedan, 2d.	2475	236	2711	3680
Sedan, 4d.	2525	240	2765	3762
Hardtop, 2d.	2531	241	2772	3694
Hardtop, 4d.	2581	246	2837	3780
Monterey				
Sedan, 4d.	2622	247	2869	3777
Hardtop, 2d.	2628	248	2876	3709
Hardtop, 4d.	2688	253	2941	3795
Convertible	2860	266	3126	3872
Sta. Wag.				
Commuter	2670	252	2922	4115
Colony Park	2852	266	3118	4131
GENERAL MOTORS CORP.				
BUICK				
Special				
Sedan, 4d.	2175	209	2384	2610
Sta. Wag., 4d.	2450	231	2681	2775
Del. Sed., 4d	2300	219	2519	2632
Del. Wag., 4d	2575	241	2816	2794
Le Sabre				
Sedan, 2d.	2720	273	2993	4033
Sedan, 4d.	2826	281	3107	4102
Hardtop, 2d.	2867	285	3152	4054
Hardtop, 4d.	2938	290	3228	4129
Convertible	3062	300	3362	4186
Est. Wagon, 2s.	3306	317	3623	4450
Est. Wagon, 3s.	3406	324	3730	4483
Invicta				
Hardtop, 2d.	3129	318	3447	4090
Hardtop, 4d.	3192	323	3515	4179
Convertible	3290	330	3620	4286
Electra				
Hardtop, 2d.	3460	365	3825	4260
Sedan, 4d.	3466	352	3818	4298
Hardtop, 4d.	3566	366	3932	4333
Electra 225				
Convertible	3795	397	4192	4441
Riviera, 4d.	3942	408	4350	4417
CADILLAC				
Series 62				
Coupe	4475	417	4892	4560
Sedan, 6w.	4680	430	5080	4680
Cpe. deVille, 4w.	4810	442	5252	4595
Convertible	5000	455	5455	4720
Sed. deVille, 4w.	5040	458	5498	4715
Biarritz	5950	527	6477	4805
60 Special				
Hardtop	5700	533	6233	4770
Series 75				
Sedan	8750	783	9533	5390
Limousine	8950	798	9748	5420
CHEVROLET▲				
Biscayne-V8				
Sedan, 2d.	2156	213	2369	3425
Sedan, 4d.	2206	217	2423	2505
Sta. Wag., 4d, 6p	2519	241	2760	3845
Sta. Wag., 4d, 9p	2615	248	2863	3895
BelAir-V8				
Sedan, 2d.	2270	221	2491	3435
Sedan, 4d.	2320	225	2545	3520
Hardtop, 2d.	2368	228	2596	3480
Hardtop, 4d.	2428	233	2661	3555
Sta. Wag., 4d, 6p	2607	247	2854	3860
Sta. Wag., 4d, 9p	2703	254	2957	3910
Impala				
Sedan, 2d.	2412	231	2643	3440
Sedan, 4d.	2462	235	2697	3525
Hardtop, 2d.	2486	236	2704	3480
Hardtop, 4d.	2528	241	2769	3570
Convertible	2700	254	2954	3600
Sta. Wag., 4d, 6p	2739	257	2996	3885
GENERAL MOTORS, cont'd				
CHEVROLET, cont'd				
Sta. Wag., 9p.	2835	264	3099	3930
CORVAIR				
500				
Coupe	1750	170	1920	2320
Sedan, 4d.	1800	174	1974	2355
Sta. Wag.	2075	...	....	2530
700				
Coupe	1810	175	1985	2380
Sedan, 4d.	1880	179	2039	2360
Sta. Wag.	2135	196	2331	2555
900				
Coupe	2010	191	2201	....
95				
Spts. Wag	2433	218	2851	....
CORVETTE				
Sportscar	3619	315	3934	2905
OLDSMOBILE				
F-85				
Sedan, 4d.	2175	209	2384	2541
Del. Sed., 4d.	2300	219	2519	2547
Sta. Wag., 2s.	2425	229	2654	2716
Del. Sta. Wag.	2550	239	2789	2731
Series 88				
Sedan, 2d.	2574	261	2835	3966
Celeb. Sedan	2634	266	2900	4031
Hol. Coupe	2687	269	2956	3961
Hol. Spt. Sed.	2759	275	3034	4074
Convertible	2991	293	3284	4060
Fiesta, 2s.	3065	298	3363	4354
Fiesta, 3s.	3165	306	3471	4428
Super 88				
Celeb. Sedan	2881	295	3176	4065
Hol. Coupe	3020	305	3325	4024
Hol. Spt. Sed.	3092	310	3402	4099
Convertible	3268	324	3592	4099
Fiesta, 2s.	3336	329	3665	4382
Fiesta, 3s.	3436	337	3773	4445
Series 98				
Celeb. Sedan	3533	354	3887	4231
Hol. Sedan	3658	363	4021	4269
Hol. Coupe	3715	368	4083	4187
Hol. Spt. Sed.	3786	373	4159	4139
Convertible	3975	387	4362	4225
PONTIAC				
Tempest				
Sedan, 4d.	1975	192	2167	2500
Sta. Wag., 6p.	2225	213	2438	2980
Catalina				
Spt. Sedan, 2d.	2390	241	2631	3650
Sedan, 4d.	2456	248	2702	3725
Spt. Coupe	2515	251	2766	3680
Vista Sed., 4d.	2586	256	2842	3755
Convertible	2805	273	3078	3805
Sta. Wagon, 6p.	2825	274	3099	4135
Sta. Wagon, 9p.	2925	282	3207	4175
Ventura				
Spt. Coupe	2706	265	2971	3685
Sedan, 4d.	2777	270	3047	3795
Star Chief				
Sedan, 4d.	2736	267	3003	3840
Vista Sed., 4d.	2859	277	3136	3870
Bonneville				
Spt. Coupe	2970	285	3255	3810
Vista Sed., 4d.	3040	291	3331	3895
Convertible	3175	301	3476	3905
Sta. Wagon	3225	305	3530	4185
STUDE-PACKARD CORP.				
STUDEBAKER				
Lark-6				
DeLuxe				
Sedan, 2d.	1757	178	1935	2661
Sedan, 4d.	1822	183	2005	2665
Sta. Wagon, 2d.	2086	204	2290	2836
Sta. Wagon, 4d.	2160	210	2370	2865
Regal				
Sedan, 4d.	1961	...	....	2692
Hardtop, 2d.	2043	200	2243	2770
Sta. Wagon, 4d.	2299	...	....	2909
Convertible	2331	223	2554	3034
Lark-V8				
DeLuxe				
Sedan, 2d.	1875	195	2070	2921
Sedan, 4d.	1940	200	2140	2941
Sta. Wagon, 2d.	2204	221	2425	....
Sta. Wagon, 4d.	2278	227	2505	....
Regal				
Sedan, 4d.	2079	...	....	2966
Hardtop, 2d.	2161	217	2378	3033
Sta. Wagon, 4d.	2417	...	....	3183
Convertible	2449	240	2689	3315
Cruiser, 4d.	2239	219	2458	3027
Hawk				
Spt. Coupe	2417	233	2650	3205

† For 6 cyl. models deduct $105 from List Price and $113 from Suggested Delivered Price at Factory.

†† For 6 cyl. models deduct $111 from List Price at Factory and $119 from Suggested Delivered Price at Factory.

‡ For 6 cyl. models deduct $111 from List Price and $119 from Delivered Price at Factory.

▲For 6 cyl. models deduct $100 from List Price and $107 from Suggested Delivered Price at Factory.

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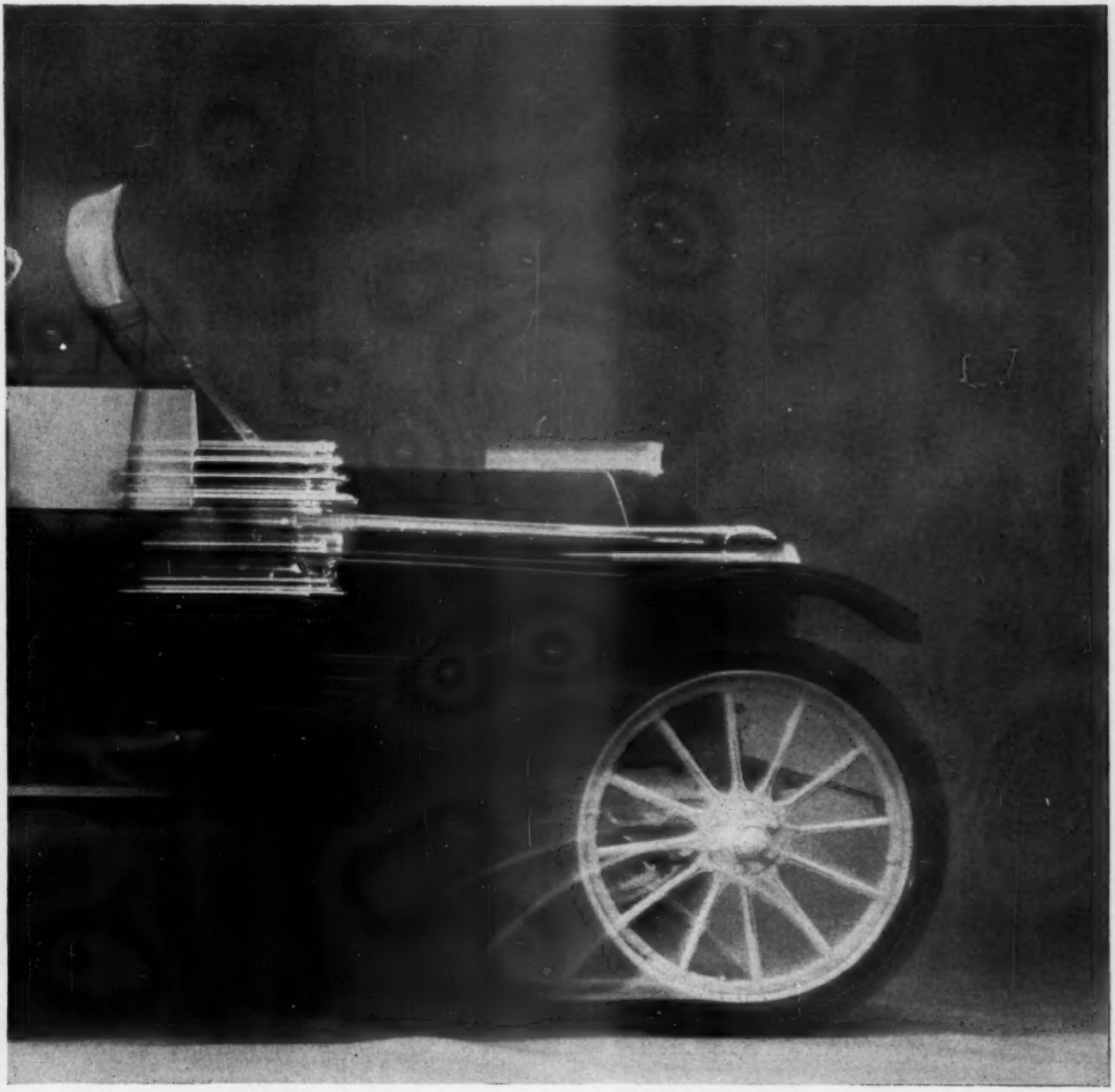
at your Chevrolet dealer's!



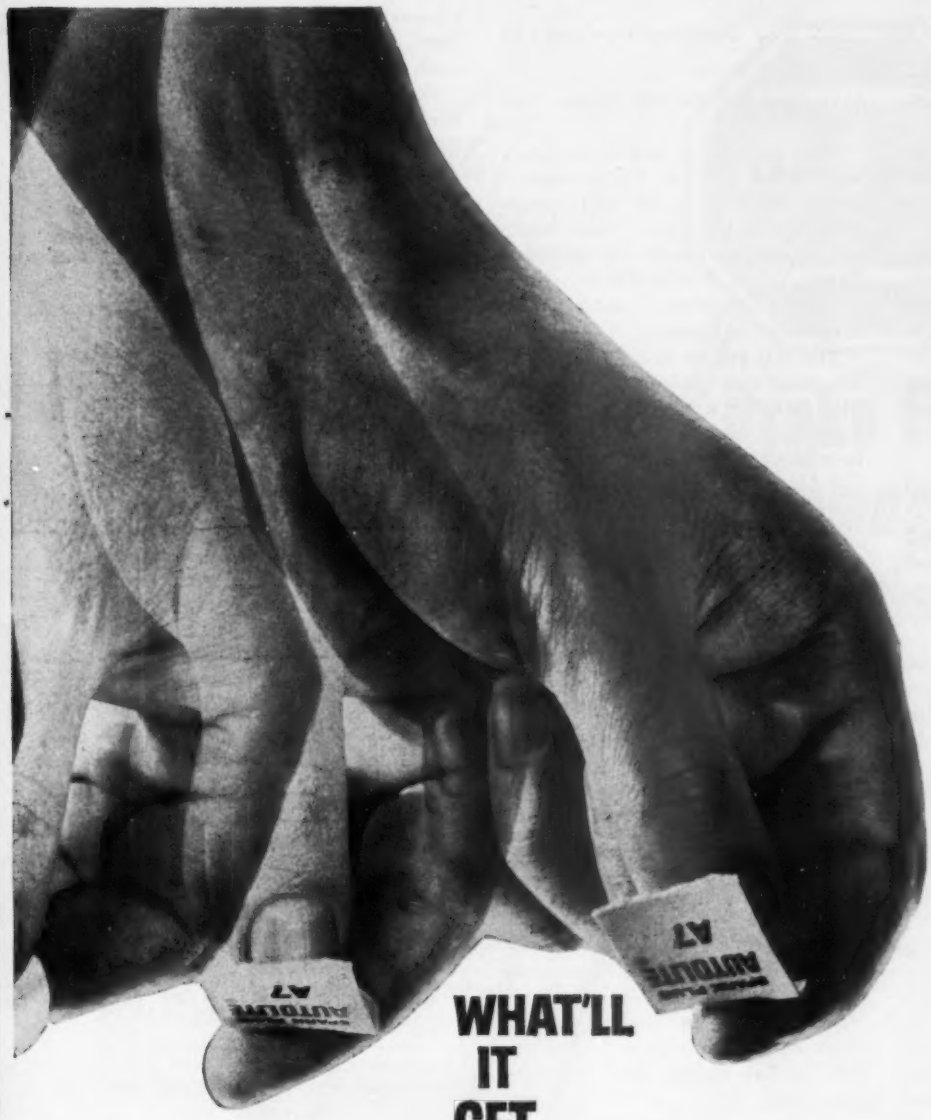
Your Chevrolet dealer is a speed demon when it comes to getting Chevy car and truck parts off the shelves and onto the job. He's either got them on hand or he can get them in a hurry from the factory warehouse. Which is why he's known in the trade as Mr. P.D.Q. (short for Parts Delivered Quick). What's more, you can count on top value for the money when you order *genuine* Chevrolet parts from your Chevy dealer. Because that word GENUINE means they're built especially for Chevrolets. Precision built to fit right. Durably built of quality materials to give trouble-free service. Result: your job is easier . . . your customers are satisfied . . . your business benefits all the way around. When you can get this kind of service, what better reason could you have for bringing your business to your Chevrolet dealer? . . . Chevrolet Division of General Motors, Detroit 2, Michigan.

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AUTOLITE.

Indy's All For You . . . . . Continued from page 72

ready for this year's go. Both are Leader Card Specials. Watson will do the chief mechanic chores on the car driven by Roger Ward. Chief mechanic on the Johnny Boyd car is Chic Hirashima.

The new Watson cars are identical in construction and features. Both have coil springs and Monroe shock absorbers on all four wheels. Why coil springs? To give better handling and to reduce weight about 75 lb. Power steering on both cars is by Saginaw Steering Gear Div. of General Motors.

"Old Reliable" M&D engines power these cars. The engine has a pre-heat water system and a 14.5:1 compression ratio. Watson mounted the engines vertically, but eight inches off center, to the driver's left.

The cars are built on a 96-in. tubular chassis, with magnesium firewall and Halibrand spot disk brakes. Special feature: three air jacks for high-speed tire changing during pit stops. Mounting for one unit is forward, just behind the center of the front axle. The other two units are just in front of the rear axle, inboard of the frame rails on each side.

All three jacks are identical: 2½ in. diam., 14 in. length, with aluminum body units. They work at 300 p.s.i. on an air hose connection on the left forward side of the engine compartment. The jacks raise the car off the ground in 0.3 sec., lower it in 0.7 sec. This can cut a pit stop by as much as a big 10 to 15 seconds.

As to the spring rate of the coils, Watson set it the same as the torsion bar suspension in his 1960 cars. He says he can replace the coils with torsion bars if the coils don't prove out at the track.

J. C. Agajanian, colorful California car owner, has his No. 98 tuned up for the race. It's the car Watson built for him last year. Body mounting is off-center one inch—engine, eight inches. Offset is to driver's left. This car has the weight-shifting device.

Frank Kurtis has 124 Indianapolis racers to his credit. He built that many since 1946. One year, 1953, twenty-four of his cars came to the track. Kurtis-built creations have been in the top money five times.

This year, three new Kurtis cars are in the picture. Their engines incline 18 deg. to the left. Usual incline is to the right. These slant-engine cars are practically identical. Tassi Vatis, White Plains, N.Y., and Fred Gerhardt, Fresno, Calif., are two of the owners.

The tail design is a feature that sets these cars off from most others. The tail has a horizontally sculptured line, almost a GM Corvette's in miniature. Kurtis maintains he did his design before he saw the Corvette.

But it's more than for looks. It ups the fuel capacity to 57 gal. This type of racer usually carries 45 gal.

The cars have air jacks, one on each side at the rear, and one at the front, offset just to left of center.

Kurtis' engine placement, with a tilt to the left, gives the equivalent of about one inch more engine offset. It's a big point in the struggle to keep all possible weight to the inside in this all-left-turn event. The body, too, is slightly off center to the left.

All three new Kurtis cars have the M&D Offie engine. Kurtis chassis features: solid axle and cross torsion bars; 4130 chrome-moly tube fram, 1½ in. diam, with wall thickness ranging from 0.83 in. to 0.95 in. Car weighs about 1600 lb. dry.

Troy Ruttman, 1952 Indianapolis winner, will pilot the new John Zink Special, designed by Jack Zink and Dennie Moore. This is the rear-engine-powered car originally meant for the Boeing turbine engine. This small gas turbine is the type used for aircraft-missile auxiliary power units.

However, the Boeing engine is out for this year's race. It just can't be readied in time. But plans call for an early Indianapolis test of the turbine powerplant—possibly in June. If it proves out, it may see competition in the 200-mile United States Automobile Club championship race at Milwaukee in August.

Meanwhile, the new Zink car will rely on the M&D. For the most part, the car is similar in design to the Cooper to be driven by Jack Brabham. It has Cooper steering and seat, and Girling brakes.

Suspension is by coil springs, double-A arms in conjunction with four midget torsion bars. While the coils will carry the weight, the torsion bars will adjust weight. Drawings call for one-inch Monroe shock absorbers. Rear hubs and A-arms, by Moore and Zink, are used with rear center Halibrand section. There's Oldsmobile's F-85 front spindle equipment. Oil tank is in the tail section. Zink's fabricated A-arms are ⅞ in. 4130 chrome-moly .065 stock. Cooper's car uses ¾ in. of the same thickness.

The Zink racer, built around a 96-in. wheelbase, weighs some 1400 lb. with the M&D engine. With the turbine engine, it will weigh about 1100 lb. Turbine engine weight 330 lb. vs. M&D over 500 lb.

The builders feel they have one of the chief problems licked—the turbine's slow acceleration. The engine turns at some 40,000 r.p.m., but with reductions will drive at the 6000-6500 r.p.m. of the M&D. This means the same gear ratio as the M&D. The makers claim the turbine is capable of 375 hp.

The slightly V-shaped frame on the car weighs only 100 lb. A 10-deg. engine tilt to the left makes room for the exhaust header out of the upper part of the body. Weight-sav-

Continued on page 82

New Imported Car Registrations* February

1961		1960	
Volkswagen	13,232	Volkswagen	11,486
Renault	3,182	Renault	6,883
Opel	941	English Ford	2,809
Mercedes Benz	714	Opel	2,525
Volvo	709	Fiat	2,114
Fiat	701	Simca	1,409
Triumph	639	Vauxhall	1,264
English Ford	613	Hillman	1,206
Simca	540	Triumph	1,189
Austin Healey	538	Volvo	1,156
All others	4,993	All others	10,683
Total	26,772	Total	42,704

Two Months

1961		1960	
Volkswagen	26,657	Volkswagen	23,484
Renault	4,912	Renault	12,962
Opel	1,965	English Ford	5,621
Mercedes Benz	1,606	Opel	4,895
Fiat	1,407	Fiat	4,070
Volvo	1,388	Simca	2,835
Triumph	1,242	Vauxhall	2,604
Simca	1,106	Hillman	2,371
Metropolitan	1,076	Volvo	2,289
English Ford	1,054	Triumph	2,168
All others	10,051	All others	19,900
Total	52,366	Total	83,188

* Compiled from official state records. Data property of R. L. Polk & Co. May not be copied, sold or reprinted without Polk permission.

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Super Brake Fluid drum becomes reservoir with this HANDY, Low-Priced BRAKE BLEEDER*



INDIVIDUALLY PACKAGED IN THIS ATTRACTIVE COUNTER DISPLAY UNIT—complete with ready-for-use 6-foot hose, spare gaskets and simple instructions. Other adapters for all cars, quick-disconnect couplers and extension hoses are also available.

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ONE PULL-UP STROKE *(no air needed)* — *builds up charge required to bleed an average car or panel truck!*

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KEEPS FLUID CLEAN — *bleeder becomes "lock, stock and barrel" of the can — keeps contents free of contaminants!*

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ONE-MAN OPERATION *eliminates "pedal-pumping" — saves expensive man-hours!*

CONTENTS FILLS AND BLEEDS *up to 40 vehicles!*

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*PAT. PENDING

BODY SHOP TIPS

Discarded 5-Quart Cans Used To Mix Paint

For easy to find containers for reducing and mixing paint, we use discarded 5 qt. oil cans. We keep them stored in the cardboard boxes in which they are shipped (usually six cans to a box). This keeps them out of the dust and dirt till they are needed, at which time the tops are cut out with a can opener, the oil washed out with a little thinner and they are ready for use. One fine feature of this can is that the upper parts of the can may be squeezed to a point which makes a near perfect pouring spout. If obtaining the cans is a problem, most service stations will save them for you if you will ask them. *Don Baxter, 1607 9th St., Woodward, Okla.*

Special Rig Straightens Grills Without Removing Them

Using a lift, chain and binder as shown, rolls a grill out easily



and quickly at the top. This method saves taking the grill apart and straightening each component, since it rolls out the entire grill as a unit. This eliminates taking off such parts as bumpers, fender, floating grill bar and gravel deflector. The radiator support can be straightened at the same time. *Harry J. Miller, 991 42nd St., Sarasota, Florida.*

Piece Of Tape Pulls Moldings In Place

For the many useful tips on body work and painting I have to thank your magazine. Here is one in return. To slide windshield chrome molding or others or fitting use a 3-M glass filament tape to pull with. Stick one end of tape on molding and pull on other end. *J. Orchard, Reliable Auto Body, Ltd., Courtenay, B.C.*

How To Get Smoother Paint Jobs With Enamel

I have a suggestion for smooth enamel paint jobs. On all of my enamel paint jobs I use silicon or fish eye inhibitor to get better flow out and less orange peel. It works very well in black, whites, and reds. It leaves a very smooth and wax-like finish. I mix the required amount in the last coat and spray the same as usual whether there are any signs of silicon or not. *Elvin Burdick, Potter County Garage, Condesport, Pa.*

Little Things Make It Big

Pick up a DeVilbiss JGA Spray Gun—from the very first grasp, the smooth firm pull of the trigger tells you it's right.

In action, the JGA performs surely, as a true craftsman, with any material—primer, lacquer, enamel, or acrylic. It responds instinctively to trained direction—whether for a feathered edge or for a full, soft coat that gently lays down a surface that's smooth, uniform with ideal flow-out.

The heft is light with a fine balance and a comfortable fit in the hand.

Forged-aluminum gun body, hardened-steel nozzle, knurled controls —all bespeak quality, compactness, and the durability to withstand the accident or moment of carelessness.

So, when you next need a spray gun, remember it's the little things that go into the JGA that make it very big. The DeVilbiss Company, Toledo 1, Ohio.

FOR TOTAL SERVICE, CALL
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Use Fish Line To Install Windshield

On installing new windshields and wrap-around windshields it's hard for the body-man to slip the rubber molding over the metal lip. We've found a much better and easier way. Get some strong thin cord, such as No. 24 nylon fish line. This is strong enough yet thin enough to go all around the inside of the outside groove of the molding after it's slipped on the windshield. When the windshield and molding are up close to the metal lip, start at the bottom center inside the car where the molding ends. Tape the end of the line to the top of dash and run it all the way around inside the groove. Cross the ends and tape them down with masking tape. With the windshield almost in place and its rubber molding up against the metal lip, start pulling one end of the line from inside the car. As it's pulled out straight away from the windshield it will make the inner lip of the flexible molding lay back. *G. O. Lynch, George's Garage, 70 Woodfin Ave., Asheville, N.C.*

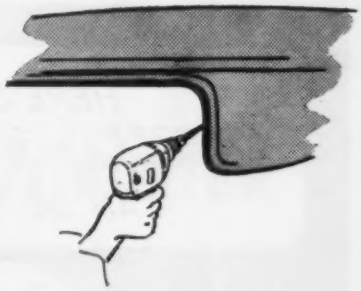


Countersinking And Filling Small Holes

When preparing to fill small holes, take a chisel and cut in 4 small gashes. These help to countersink metal while giving the lead or filler a place to adhere and hold. *L. Friesen, 1805 East Ave., Reedley, Calif.*

Drill Used to Acquire Original Fender Contour

My way of making the little trench in the edge of the fender



around the fender skirt opening of the rear fender where its damaged too bad: I take and clean and fill with plastic filler or lead, and file and sand out to complete finish, excepting for the little trench around the edge. Then with expert skill, take bit and run around the edge of fender and cut trench desired. The one I have in mind is that of a 1961 Pontiac. I guess the 1960 would be the same; I only worked on a '61 model quarter panel fender. *C. M. Causey, 609 Upland Ave., Marion, S.C.*

BODY SHOP TIPS

are worth

$7.50

If you've developed an Idea that has helped you to do body and fender work or painting better or faster, it may be worth money. Jot down the idea and, if necessary, make a rough sketch. Sometimes a snapshot will help. Just make the description of your BODY SHOP TIP clear, and if it is used, you'll receive a check for $7.50.

Indy's All For You . . . . . *Continued from page 78*

ing features: aluminum underpan and side panels; rest of skin, fiberglass.

Fuel tank arrangement in the Zink car is somewhat different. Rather than a tail tank, the load is in two side tanks. Each carries 32 gal. One central spout serves both tanks. With a cross-over tube, the right tank fills first. The left side gets its fuel under pressure. To meet USAC safety rules, the tanks are fiberglass covered and enclosed by the body skin.

Reventlow-built radiator specifications: 2.5 in. core, 23 in. wide and 13 in. high. It cools the engine by a series of aluminum tubes running along the sides of the frame to the rear engine.

Design of the Zink car places 50 to 55 per cent of the fuel forward. With engine and transmission in the rear, the cockpit is roomier than in most Indianapolis cars. It's more the rear, the cockpit is roomier than comfortable, too, because there's no heat from the transmission or leaking oil problems.

Veteran builder Eddie Kuzma put together a new Jim Robbins Special for this year. On the team as chief mechanic is Louis Meyer, Jr., son of Indianapolis' great three-time winner and now head of the Meyer & Drake Company.

The new car has the usual chrome-moly tubing frame, with the engine placed 18 deg. off horizontal and to the driver's left. Meyer uses the new M&D reverse-torque powerplant. The idea is to reduce tire wear on the outside tread. With the engine near-horizontal, and sticking outside the frame, there's more pre-load on the left side. The engine, too, is off center in the chassis, putting still more weight on the left side.

The Robbins racer has an external water heater unit on the cylinder block side-plate. Just before the race, the unit will be plugged in at the pit. It will preheat the water to 180°F., the engine operating temperature. Big advantage: hot water quickly warms up all the cold metal in the engine—should send the car off to a flying start.

Some interesting features show up in Lindsey Hopkins' Autolite Dealers Assn. Special. Builder Quinn Epperly, Gardena, Calif., put in a two-piece drag link and vertical idler arm system. It's to reduce steering wheel vibration. The car has to use a two-piece radiator core. This arrangement gives clearance for the starter shaft.

There are two separate braking systems: duals on rear, singles on front. Air jacks are on this car, too. Driver Tony Bettenhausen hopes to push the car into the winner's circle this year.

Dean Van Lines has its two Kuzma-built specials ready again. Main change this year is a shift in engine placement—from center to left side of frame. It's in a near-horizontal position.

Andy Granatelli, Santa Monica, Calif., is the new owner of the two Novis. He bought cars and engines lock, stock, and barrel from Lou Welch. Their new name: Paxton Products Supercharged V-8 Specials.

Continued on page 92



1. Washes automobiles and trucks *cleaner, faster and easier . . .*
2. Cleans engines quickly . . . makes them look like new!
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NOW YOU CAN GET THIS FREE DISPLAY RACK



This colorful rack comes complete with the 10 shock absorbers included in our special deal, plus an eye-stopping sign that will help to pre-sell your customers on Ajustomatics, the truly adjustable shock absorbers made only by Gabriel.

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Contains wall chart, catalog, check tags . . . everything you will need to impress the customer and get the business.

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Makes it a snap to loosen stud-end nuts frozen by rust or corrosion . . . enables you to handle more shock absorber business more profitably.

All with your purchase of 10 Ajustomatic shock absorbers



It's as simple as that! Buy these 5 pairs of Gabriel Ajustomatics . . . and you're in business. For the 5 models in our special deal are the most popular models in the Gabriel line . . . and they will fit more than 36,000,000 cars . . . *actually 2 out of 3 cars that pass your place of business!*

Not only that . . . you'll be offering your customers the very finest shock absorbers made. For Gabriel Ajustomatics have 53% more working area than most ordinary models . . . they let each motorist select the ride he wants, for the driving he does, and, most important, Gabriel Ajustomatics are *popularly priced.*

This special offer is good for a limited time only. Get full facts from your distributor . . . pronto!

← Here is the heavy duty Gabriel Ajustomatic. It can be adjusted easily and quickly by hand, for Regular, Firm or Extra Firm ride. To make the adjustment, you simply collapse the shock absorber and turn the cylinder to the desired position. It will click in place. That's all there is to it!

Gabriel
SHOCK ABSORBERS

THE GABRIEL COMPANY, Cleveland 15, Ohio

Sell Shock Absorbers For Safety . . . . . .

Continued from page 49

proper performance of the shock absorbers that are not correctly or unevenly mated. When shock absorbers are operating properly they should dampen the jar at the front wheels when hitting sharp bumps. If they are not working properly they will permit a jar to be transmitted to the steering wheel, sometimes even causing a severe shimmy.

On cars where the fluid can be checked they should be checked at least twice a year to make sure they are controlling the car movement properly. If the fluid is allowed to become low, air pockets may form in the working chambers and destroy the check valves.

A broken or defective shock can be detected immediately by the lack of resistance or too much resistance. Check for noisy operation. Check the shock absorber brackets and make sure they are tight and not striking or rubbing on the frame or other parts of the coil spring or chassis. Check the rubber mounting bushing and replace if worn. Also make sure the shock absorber is properly fastened.

Noise attributed to the shock absorbers may be caused by worn or broken links, or bushings, absorbers empty, or low on fluid, stabilize links or bushings, loose items in the trunk or broken internal shock absorber parts.

Check the spring shackles, the spring covers and also U bolts. Make sure they are tight. If it is definitely decided that the shock absorber is at fault disconnect one end or remove the shock and then try car.

In handling a riding complaint the car should be driven on all types of roads. Car should be placed on a lift and shock disconnected and worked up and down to feel the resistance. Also all the bushings and brackets should be checked.

Your customers will appreciate your thorough workmanship and are ready to pay you a fair price for the comfort and safety you can assure them. Be proud to recommend quality products and don't be ashamed of making a profit.

HANSON *HAND-SIZE* Tachometer

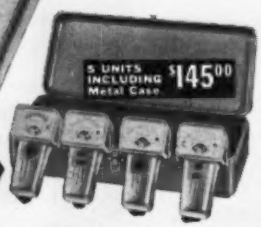
Gives You More for Your Money

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- Attractive chrome case
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50% LARGER



Model 26
$39.95



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ALL 42 HANSON TESTERS ARE TOP QUALITY, FULLY GUARANTEED AND COMPLETE WITH INSTRUCTIONS

SEE YOUR JOBBER

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PAW PAW, MICHIGAN

Send FREE literature Dept. MOA
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Address_____
City_____ State_____

Flim-Flam . . . . . .

Continued from page 51

Of course, the automobile salesman offered to drive the 'customer' to the drug store and when they arrived there the salesman loaned the 'customer' $20.00. The salesman waited in the demonstrator outside. After waiting for quite a spell, he went looking for his 'customer.' Needless to say, he was nowhere to be found.

So, just like some people go to church to pray, others go to prey. That's why churches have signs, "Ladies watch your handbags." The fleece-em crowd are everywhere.

MOTOR AGE did a story back in October of 1914 about a new occupation taken on by some old hands in a very ancient trade. The title of the story was, The Crook, The Dick and the Stolen Car. It covered a new class of criminals at that time. Many of them were old timers that had taken up the new trade in the underworld, the car thief.

Here's a quote: "Since the sunless morning when Fagin taught Oliver Twist to pick pockets and the red nights when the James boys terrorized Missouri, the crooks have found a new field for their activities, a field where the graft is rich and the chances for making a clean getaway better than good. There are safe blowers who have mixed their last mess of soup, pickpockets who have listed their last poke, burglars who have made their last haul. All former buzzards of the night who now are working during the day and laughing derision at the law which once they feared. Their kit is simple, consisting of a license tag, several switch keys, a pair of nippers and a set of metal stamps."

Thus, MOTOR AGE many years ago called your Daddy's attention to a problem that still plagues us today . . . car thieves.

Here's a new gimmick the boys are currently using. It's easy for car thieves to 'phone a dealer and get numbers of the ignition and door locks for a car they "spot," so that

Continued on page 86



Remanufactured parts must be good to merit this stamp of approval

To be sold under the MoPar Approved label, remanufactured parts must meet the industry's most rigid standards. The results are not just rebuilt or reconditioned parts . . . but MoPar *Approved* R-e-m-a-n-u-f-a-c-t-u-r-e-d Parts.

A MoPar Approved engine is remanufactured on a modern assembly line. It is stripped down, cleaned to the bare metal. Re-used components must pass exacting tests and inspections . . . then they are precision machined to within new part production tolerances. Genuine, *new* MoPar parts are installed. For example, *every* MoPar Approved Remanufactured engine contains new MoPar pistons (including pins, bushings and rings), new MoPar connecting rod bearings and main bearings, new MoPar camshaft bearings, new MoPar timing chain, new MoPar hydraulic tappets (where applicable). All gaskets and seals are replaced . . . and head and block surfaces are refaced.

MoPar Approved Remanufactured Parts are run-in and tested at the plant . . . before final inspection and approval. Engines selected (called at random from production lines) get over 600 dimensional and "surface finish" checks for quality of workmanship, component parts, and comparison with original specifications . . . at *MoPar's Remanufacturing Quality Inspection Lab in Detroit.*

This attention to detail is the reason why you can install MoPar Approved Remanufactured Parts with such complete confidence.

Remanufactured parts available include: *6-cylinder engines—8-cylinder engines (short and complete)—V-8 cylinder heads—automatic transmissions—fuel pumps—generators and armatures—starters and armatures—voltage regulators—carburetors—clutch assemblies—crankshaft kits—oil pumps—connecting rods—torque converters.*

Cut costs and speed your service jobs. Install *MoPar Approved Remanufactured Parts* for Chrysler Corporation built vehicles—or *Rempar Quality Remanufactured Parts* for other makes of vehicles. Call your MoPar Wholesaler or Chrysler Motors Corporation Dealer . . . today.

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REMPAR QUALITY REMANUFACTURED PARTS

MoPar Parts and Accessories,
Chrysler Motors Corporation, Detroit 31, Michigan

Flim-Flam . . . . . *Continued from page 84*

they can quickly make duplicate keys.

This is how they wheel em.! They check the license number for the owner's name and then call the dealer whose trade name appears on the rear deck of the car. They state that they represent a certain locksmith and that the dealer's customer—Mr. So and So—is locked out of his car. Will the dealer give them the numbers of his keys so they can make a duplicate set for him?

The partsman or bookkeeper checks the invoice of that particular car and in some cases without further verification, gives them the key numbers. Every precaution should be taken before giving out key numbers of your customers' cars. Make sure it is the owner himself who wants the numbers. If it is a 'phone call request, at least take their 'phone number and call back before giving out information. A dealer might be held liable if it could be proven that the dealer gave the key numbers to someone without the owners permission and the car was stolen.

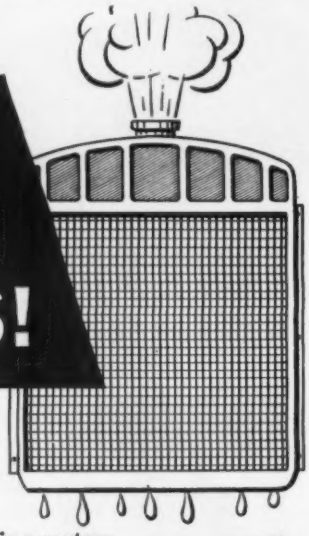
Here's another Yo-Yo operation to look out for: Buyers for an auto theft ring from out of state are buying late model cars using out of state bank drafts. A banking reference is given and apparently the checks are good. The cars are then transported out of state and sold. The twist they use is to have an accomplice in the out of state city close the account shortly after the deal is made. He then meets his pals in a new city and they start all over again. Always demand a certified check and always be cautious on dealing with any check on an out of state bank. The F.B.I. is looking for this mob after they eased the iron over the state line. Live and learn the easy way, don't let 'em fleece you.

Beware of the rubber men and their women. The bums who pass bum checks. Automotive men are sucked in on this racket almost every hour of every day. Read and heed these Ten Commandments for bouncing these birds on their ear.

1. Don't cash a check for a stranger without positive identification. Social security cards and auto licenses are easily forged. Get car license number of person cashing check.
2. Make sure that all checks are checks of an existing person or concern and are drawn on an existing bank.
3. Beware of out - of - town checks.
4. Don't accept pre-endorsed checks. Have all checks endorsed in your presence and place the presenter's address on the check.
5. Don't cash checks for juveniles. They are not legally responsible and are often used as "runners for adult passers."
6. Be particularly careful when cashing checks while banks are closed.
7. Don't cash checks for amounts considerably higher than the amount of purchase.

Continued on page 94

Good Money
REPAIRING
RADIATORS!





A real opportunity awaits someone in your area to cash in on the growing volume of radiator servicing. Why not YOU? Consider these facts:

- **The high pressure in today's auto cooling-system demands more frequent radiator servicing.**
- **83% of all radiators over a year old are partly plugged — need cleaning. Many need repairing.**
- **The number of autos, trucks and tractors in your area increases every year.**

PROFITS: $6,000-$8,000-$10,000 additional a year reported by many Inland shops and departments.

EQUIPMENT: Inland, world's largest radiator equipment mfgr., offers a complete, modern line. Everything to test, clean, repair and recore radiators.

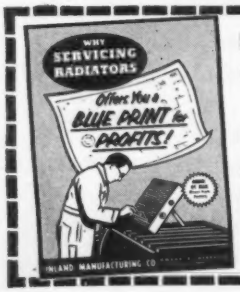
TRAINING: You or your man admitted without cost to our factory school for complete training in radiator work. Continuing merchandising and selling aids.

PAYMENT PLAN: Equipment available on Inland's "Pays-For-Itself" payment plan . . . enables you to pay from profits. Mail coupon today.

$300 a week
$400 first week
$9,445 first year
$10,000 a year
$13,500 first year

INLAND MANUFACTURING COMPANY
Dept. MA-5, 1108 Jackson St., Omaha 2, Nebr.

Mail Coupon Now!



INLAND MFG. CO., Dept. MA-5, 1108 Jackson St., Omaha 2, Nebr.

Please send free 32-pg. book describing equipment, school, prices, payment plan, etc.

FIRM _____ (PLEASE PRINT)
ADDRESS _____
CITY _____ ZONE STATE _____
BY _____ TITLE _____
If dealer, make of car sold _____
Are you now operating a radiator Dept.? ☐ Yes ☐ No



"We cover our selling area with ads in six Yellow Pages directories," says J. Dean, Jr., Sec.-Treas., AA Brake & Clutch Service, Paterson, N. J. "And we advertise under BRAKE SERVICE, AUTOMOBILE PARTS & SUPPLIES and four other headings to promote our complete operation. Of the 10-15 accounts we get every month, many come in through the Yellow Pages. The Yellow Pages does such a good job of reaching our prospects, it's the only kind of advertising we do!"



Display this emblem. It builds your business!

Display ad (shown reduced) runs under BRAKE SERVICE. Call the Yellow Pages man at your Bell Telephone Business Office to plan your program.



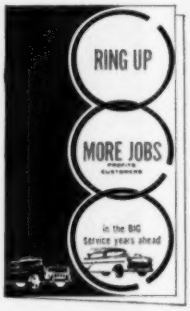
try the piston ring set* that's a pleasure to install

* **EACH MUSKEGON ENGINE-DATED** piston ring set consists of a carefully coordinated arrangement of compression and oil rings... the right type ring for each groove to assure maximum performance in a particular engine. The result, as voiced by the Engineers, is that "The engine likes the rings." You can be sure that an Engine-Dated set will give the vehicle owner top-notch performance, that's why they're a pleasure to install.

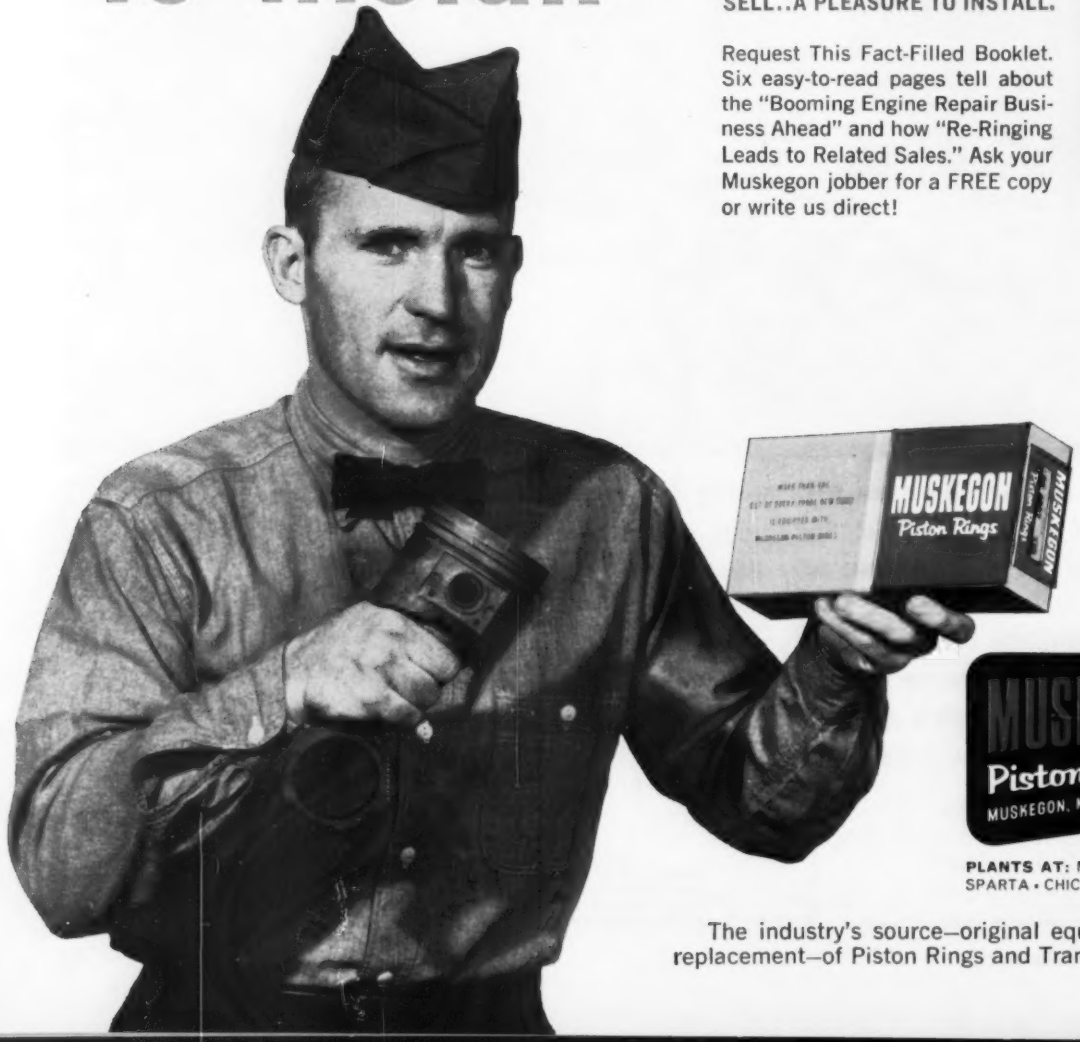
Ring job costs are reduced too, because Muskegon takes inflation out of piston ring pricing – passes along to you important savings resulting from economies in Muskegon's distributing plan.

Packaged attractively with color-coded inner containers to guide you in getting the right ring in the right groove. Complete instructions to assure entire satisfaction every time!

JUST TRY THEM ONCE AND YOU'LL SEE WHY "ENGINE-DATED" SETS ARE EXCITING TO SELL..A PLEASURE TO INSTALL.



Request This Fact-Filled Booklet. Six easy-to-read pages tell about the "Booming Engine Repair Business Ahead" and how "Re-Ringing Leads to Related Sales." Ask your Muskegon jobber for a FREE copy or write us direct!



MUSKEGON
Piston Ring Co.
MUSKEGON, MICHIGAN
MPR

PLANTS AT: MUSKEGON
SPARTA • CHICAGO

The industry's source—original equipment and replacement—of Piston Rings and Transmission Parts

Use Your Head . . . . . *Continued from page 55*

its time so you won't stand the risk of under-quoting a job.

With a modern type automobile lift and related equipment (brake fluid pressure tank as an example), your men should be able to double the number of brakes that can be adjusted in any one hour. How many more times can this device save you time and money in the many operations done in your shop.

Operations such as criss-crossing tires, mufflers, pipes, shocks and even transmission repairs. *Now don't get us wrong, the conventional type of jack has its rightful place in any shop because of its flexibility.* However, to increase the productivity of each man to meet the rising cost of labor and material, you must utilize their time to the utmost. Modern type car lifts that raise swiftly are one of the answers. As for safety, more than adequate provisions have been made in their design to completely eliminate any danger to operating personnel.

Lifts in the past have always been considered a piece of equipment for use in the lubrication department. Stop now, and consider the numerous advantages of this type equipment in any service operation. We're sure you'll agree that their possibilities are unlimited.

Take the case with most customers; they never, if ever, see the under-side of their car. They are naturally curious about what goes on under this hidden and least accessible part of their car. Here is your golden opportunity to capitalize on their natural curiosity. With the car on your lift, the customer isn't going anywhere, at least not while you keep him there. Here is your chance to show him the "U" joints and shocks he hears exist in this unseen area of his car. Point out those leaking shocks, leaking oil and wheel seals. Show him the engine or transmission oil leaks and the hundreds of other possibilities limited only by your keen and practiced eye.

He or she is your captive in a absolutely perfect sales situation. Give them the opportunity of seeing for themselves the service their car needs. Show them, then sell them. Explain that with this new type lift, you can perform the service required in much less time, thus saving them many dollars in time consumed laboring in a difficult working position.

These lifts will give your establishment that new look that so many of your customers have come to expect these days.

Lifts show that you mean business. They prove to your customers that you're in business to give them quick, accurate and professional service. This they appreciate and look for, plus, you can bet, they pass the good word on to their friends.

In choosing a lift to suit your operation, decide on the type of work you expect to do or are doing in your shop. Then contact several of your local jobbers who can supply you with your equipment needs. These men are experts on giving you a big lift, profit-wise to your advantage. Seek their help and advice, it costs nothing. Then decide

Continued on page 124



LUCAS ACCESSORY LAMPS

original equipment quality! Whatever the make car, whatever the styling preference, there's a smartly designed Lucas accessory lamp to suit your customers' individual lighting needs. You'll have more *satisfied*, more *profitable* sales when you recommend these and other genuine Lucas "made in Britain" accessories. Send today for the new Lucas 12-page accessory booklet and details on the complete line.

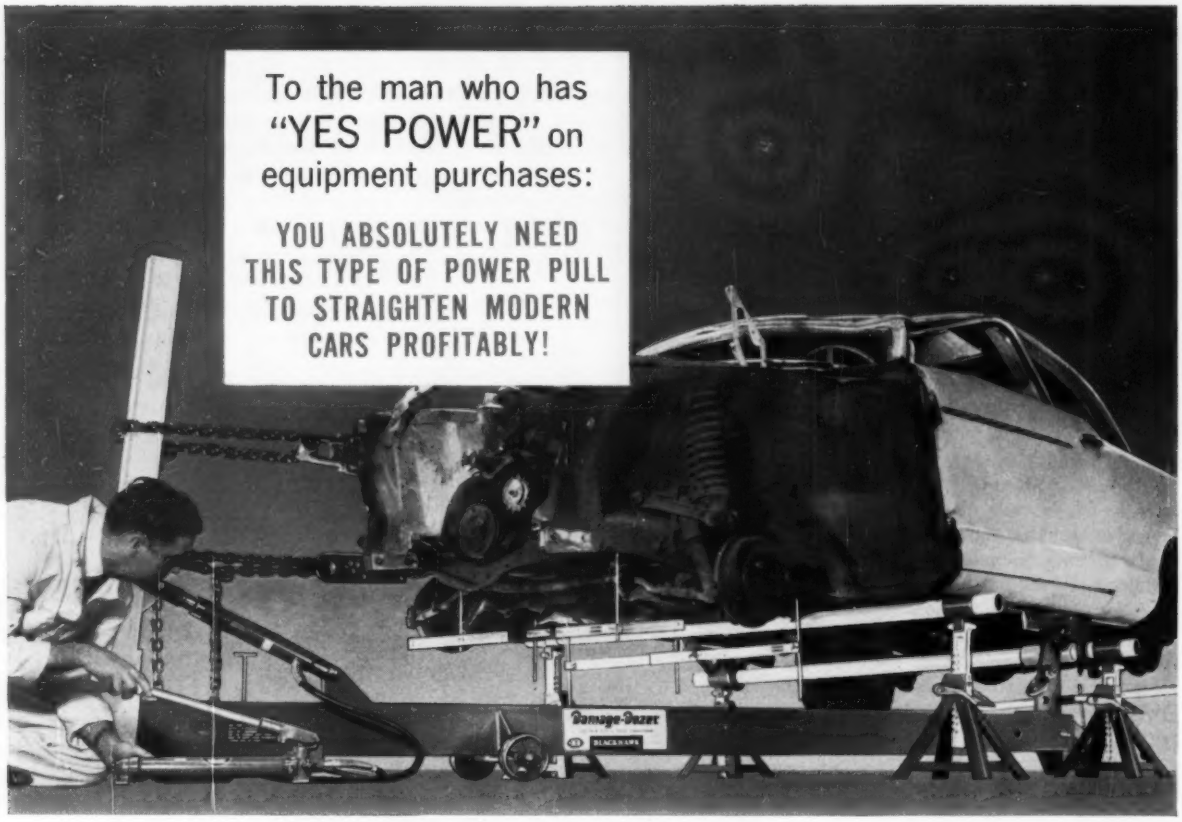
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REGULATORS • STARTERS • BATTERIES • GENERATORS
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And now on a PAY-AS-YOU-EARN PLAN you can

BANK BIG Dozer PROFITS

(Only a Blackhawk "total package" SYSTEM up-dates your shop this way)

Choose from this big family of 5 Dozers

There's a portable Dozer or combination of Dozers for every shop or budget!

Dozer System	Work Range	User* Price	Monthly Payment
EK-60 DAMAGE-DOZER	Repairs all frame and body damage	$994	$38.50
EK-40 UNIT-DOZER	Repairs unit body damage and wide range of frame damage	$689	$26.60
EK-20 POWER-DOZER	Handles all external sheet metal damage	$390	$22.84
EK-10 PULL-DOZER	Pulls sheet metal sections, pillars, posts, rocker panels	$288	$16.68
EK-7 BANTAM-DOZER	Speeds up high-frequency body, fender and sheet metal pulls	$220	$14 27

*Suggested user prices. Low down payments. Prices subject to change without notice.

Chances are 10-to-1 that the informed men in your shop already know that traditional techniques for straightening cars are dead as yesteryear's buggy whips! Unitized bodies, compacts, unusual frames and modern car designs demand new methods. And you can easily modernize to put the necessary new methods to work for you efficiently — but only with a Blackhawk "total package" Dozer system.

NOTE: The Blackhawk "total package" system includes the basic Dozer tool, its hydraulic equipment, gages to determine damage and guide correction, essential tools and exclusive attachments to make the equipment useful on all types of cars — plus diagnostic, instructional material and convenient finance plans.

But THE BOSS looks at *both* money and method. He must ask: "What's my outlay, my added overhead, my chance for profit?" Answer: For all practical purposes your net cost is nothing and profits can be phenomenal. Why? The low down payment can be offset by immediate EXTRA earnings. And low monthly payments are most likely to be but a fraction of your NEW INCOME. And only the Blackhawk "total package" system can put your men and your money to work INSTANTLY! So call your Blackhawk Porto-Power jobber today and Dozerize for profits!

BLACKHAWK® Porto-Power®

Write BLACKHAWK AUTOMOTIVE DIVISION, Milwaukee 46, Wis., for new free 20-page Porto-Power catalog and valuable repair manuals.

Paint Department . . . . . Continued from page 63

turned out here with the number of men, bears this out as a truism. In the paint department, there is one head sprayman who functions as a working foreman, plus three more men who are classified as helpers. However, these three helpers complete every job they start.

Complete paint jobs are handled elsewhere, and by the head sprayman.

"We hire no amateurs, nor trainees," Howard said. "They get in the way, slow down production, and require the close supervision of an experienced man, which slows down their production.

"Most fast, experienced mechanics, working on a percentage of customer labor, resent what they refer to as 'Baby Sittin'."

The one factor which most paint departments are continually fighting is eliminating bottle necks.

"You can see how we've managed to do this," Howard continued. "Quick spot jobs are run into one of the two center lanes, which we refer to as our Express Lanes.

"Each Express Lane accomodates as many as three cars, one behind the other with plenty of elbow room between. The first car must be completed first. Because the cars are run out of these lanes the way they are headed. Thus, we are always moving cars ahead without any back-tracking, or lost motion."

Each paintman—we hesitate calling them helpers—is equipped with three sets of power driven tools. . . buffers, sanders, polishers. Consequently, he doesn't have to waste any time taking tools from one job to another, and hunt outlets to hook them up. He can lay aside his tools, go to another job he's working on, and his tools will be just where he left them when he returns to pick up where he left off.

Until one watches this crew in action, it would seem as if nothing but confusion could exist. It doesn't.

It might seem odd to see a paintman lay aside his spraygun, and walk over and start masking off another car. But he's masking while waiting for his spot job to dry before the next coat, or to finish out.

Speedy Dry primer is used exclusively, which saves the surfacer at least 10 per cent of his time.

"We also use dry, no-fill, pre-cut sandpaper," said Howard. "It's expensive. But it reduces the time factor by half compared to the wet rub."

When one man is assigned to a job to its completion, better, more satisfactory finished jobs ensue, it's been learned.

"90 per cent of our paint jobs are insurance work," Howard went on. "Because we can pinpoint any unsatisfactory jobs to the one man, we don't have any. Our comebacks are sub-zero."

The margin of net profit here is above average, though customer labor is computed at only $5.50 per hour. Baked enamel jobs, baked off in the oven, start at $60; $70 for two colors. Lacquer jobs are $100 for one color; $125 for 2 colors.

"25 per cent of the return from the job covers the material cost. That is: on a $60 job, $15 is charged against it for materials.

Continued on page 96

TORQUE WRENCHES



*These are the same torque wrenches used and recommended by leading engine and equipment builders.

This Mark* Guarantees:

1. Guaranteed accurate forever within 2% of maximum scale reading.
2. The only wrench that permits accurate use of adapter & extensions. Patented pivoted handle permits concentrated load position—the only way to obtain accuracy with adapters and extensions.
3. Rugged construction. Can be stored in a tool box with other tools.
4. Easy to use as any socket wrench.
5. Signalling models and direct reading styles to choose from.
6. A complete range to choose from to meet every service application.



Valve and Clutch Spring Tester

Test new as well as used springs. Match sets of valve springs for top engine performance. Check clutch springs to prolong clutch life.

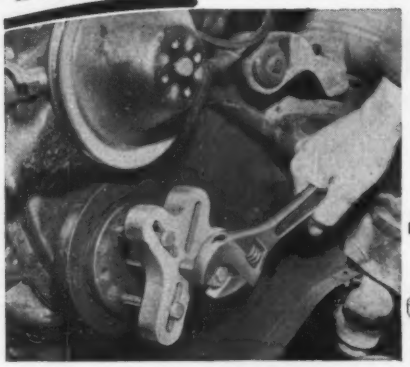
FREE

Torque Specification Book for over 130 makes and more than 1200 models of automobiles, (U.S. and foreign) trucks, tractors, outboards, motorcycles, diesel, aircraft, marine and small air cooled engines. Spark plug, wheel bearing, valve spring data and many helpful torque tips sent free upon request, write Dept. 615



PA STURTEVANT CO
ADDISON QUALITY ILLINOIS

NEW time-saving OTC tools

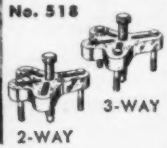


NEW 2-way 3-way flange-type puller

- **REMOVES HARMONIC BALANCERS, TIMING GEARS, ETC. ON LATE MODEL CARS**

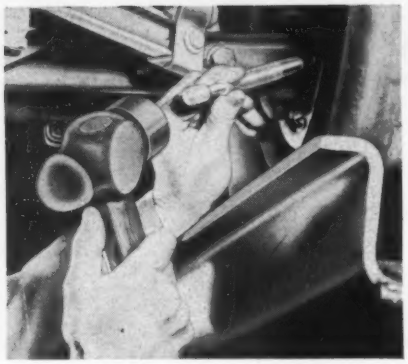
Like two pullers in one! . . . allows mechanic to quickly and easily remove harmonic balancers, timing gears, etc. which have either two *or three* tapped holes. Handles bolt-circle diameters from 1½" to 4⅜".

No. 518



3-WAY

2-WAY



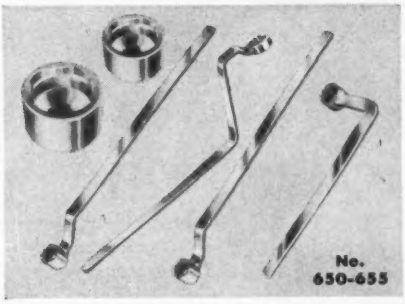
NEW "Zirc-Ram" tool

- **FREES FROZEN GREASE FITTINGS QUICKLY AND EASILY**

With one hammer blow "Zirc-Ram" generates up to 1,000 lbs. of hydraulic pressure, quickly frees frozen zirc-type grease fittings and often reseats damaged fittings. Works on either straight or angle fittings, will not harm fittings as pressure is exerted by oil, not metal.



No. 519



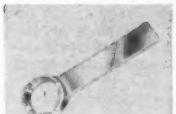
No. 650-655

NEW ball joint suspension sockets, wrenches

- **EASILY REMOVE AND INSTALL BALL JOINTS; ADJUST CASTER, CAMBER**

Specially designed ball joint suspension sockets quickly remove and install ball joints from upper and lower "A" frame on Chrysler built cars. Four new ball joint suspension wrenches adjust caster and camber on late model Ford, Mercury, Lincoln and Rambler cars.

Other NEW time-saving OTC tools and equipment



No. 517

NEW gas gauge lock-nut wrench for late model Chrysler cars.



No. 434

NEW Ford generator wrench—for generator mounting brackets.



Nos. 961-965

NEW flange-type rear axle bearing puller-installer.



No. 656

NEW Ford manifold nut wrench for right and left bank.

See your OTC distributor about these and other special OTC tools, or write:

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OWATONNA TOOL COMPANY

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Designers and manufacturers of the world's most complete line of Maintenance Tools and Hydraulic Equipment.



PULLERS AND PULLER SETS · HYDRAULIC RAMS AND PUMPS · HYDRAULIC SHOP PRESSES · HAND TOOLS

Indy's All For You . .

Continued from page 82

The owner is pushing to ready at least one car for this year's race. Veteran chief mechanic Jean Marcenac is on the new team.

Mr. Granatelli told Motor Age about a few of the engine modifications. They include changes in piston design, combustion area to accommodate dual ignition, and switch from fuel injection to standard carburetion. The engines will use straight methanol.

Safety Inspection

Continued from page 59

"Sorta brace yourself," he advised. "Got to test your brakes." And he applied pedal pressure when he knew he was at the designated painted line. Thirty feet ahead lay another line, at which the car should have stopped. It didn't. . . so he reached down and quickly jerked away the one inch metal tool, designed to fit beneath for testing power brakes.

The girl laughed, as Dan finally brought the car to a stop. "Trying to wreck us?" she asked pleasantly.

"No. But you will if we don't adjust your brakes," he admonished, as he automatically turned on the wipers and blew the horn.

Explaining the necessity of pedal reserve, Dan felt good as she told him, "Do whatever is necessary to make it safe."

What a switch, he thought, as he completed the work and sent Beautiful on her way. Maybe this was recompense for having to deal with that other kind.

But happiness was short lived as he climbed in the next car. Dan knew it would never pass, but must give it the test anyway.

With a tired hesitant sound, the starter finally gained enough momentum to kick off a clattering eight year old motor. The inspector didn't bother with the brake testing tool, now turned around to become a two inch one for conventional brakes. Rather, he shifted to low gear and eased the car toward his stall. Wipers were hesitant, but

Continued on page 94



Super-strength bearing takes 3-ton loads

This is the new Federal-Mogul AP steel-backed aluminum bearing. It can take pounding up to 6,000 pounds per square inch (pressure equal to the weight of this medium truck). This bearing was designed by Federal-Mogul engineers for the new kind of engines appearing today . . . shorter engines with high horsepower, high compression, and reduced bearing area.

The secret of this bearing's superiority lies in its new aluminum-alloy lining. It has both the high strength of aluminum and good bearing "oiliness". And in addition to its exceptional fatigue strength, this Federal-Mogul aluminum bearing is also highly resistant to corrosive engine acids.

This AP aluminum bearing is just one in the complete Federal-Mogul line. Others include the 5-layer copper-alloy, straight copper-alloy, and babbitt bearings. Each is designed for a particular engine . . . and gives superior service in it. Whatever bearing you need for replacement, rely on Federal-Mogul and be sure of customer satisfaction. See your Federal-Mogul jobber.



FEDERAL-MOGUL ENGINE BEARINGS

FEDERAL-MOGUL SERVICE

DIVISION OF FEDERAL-MOGUL-BOWER BEARINGS, INC. • DETROIT 13, MICHIGAN

Safety Inspection . . . . . Continued from page 92

passable; the horn sounded . . . maybe enough to be audible for the required 200 feet. Stopping out on the court, Dan looked back into a large plate glass window, which housed part of the shop and served him as a mirror, and saw the stop lights burning—even after his foot came off the brake.

Meanwhile, the car's owner slowly ambled toward the apparent spot his car was headed.

"Think she'll do?" he asked, as Dan adjusted the headlight tester to the proper height.

"No. It will take considerable work," and the inspector noticed, as he answered, that both sealed beams were watery inside. He knew his gauges would read nowhere near the 3500 candlepower, but for courtesy only, tested them.

"How much?" queried the man. Dan looked at him, and decided he must be a clergyman; then changed his mind, for surely those fellows respected life and safety more than this.

Dan told him honestly he didn't know, because he was unsure what the brakes needed; nor if the battery was strong enough to bring even new lights up to standard.

Quietly—almost pious like—the man drove away. Dan felt a momentary pang of pity, but knew he must remain firm concerning safety.

Mistakes are only human, and Dan made one on the next inspection. Running the car through the regular routine, and having only to replace a license light bulb, he was scratching away the old "sticker" when the inevitable "waiter" owner strode up.

"You mean it passed, even with that busted muffler and crazy front end?" he seemed astonished as he asked. "Why, I just knew I'd have to repair them. That thing trys to wander all over the road."

"We don't even check those," Dan told him. "Not for inspection, but I'll be glad to have someone take a look."

"No. . . never mind now, if you say it's okay. I need to hurry anyway. Got 400 miles to drive."

"But. . ." Dan started, sort of stupidly, as the man hurriedly departed toward the cashier's window to pay his bill.

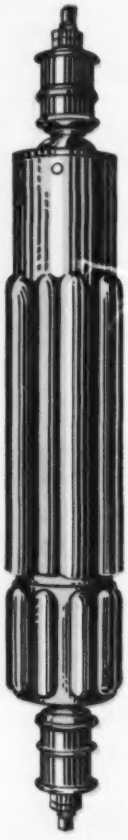
Dan inwardly boiled. Not at the customer; not exactly at himself; but at the lax general conditions and public disdain which permitted these hazardous potential dangers to exist. That fellow really believed now his car was safe. What if he. . . oh well, he alone couldn't settle such

Continued on page 96

GOLDEN GLIDE

. . . the premium shock absorber . . .

does away with varying prices for mountings!



For shocks to fit every make and model car, Golden Glide offers you just *one* price for the standard series, *one* for the heavy duty model. No extra charges for various mountings . . . no confusion over prices.

No change in quality, either. Golden Glide is still a *premium* top-performance shock absorber that gives you the exclusive selling advantages of a full rubber stone guard and fluted dust shield.

And all this is supported by a selling and merchandising plan such as no other premium shock absorber line in the industry can offer you. It is a premium line with a new, low competitive price! Call your Golden Glide jobber today for full details.

THE GOLDEN GLIDE SHOCK ABSORBER COMPANY
Cleveland 15, Ohio

GOLDEN GLIDE
Shock-Absorbers • Load-Absorbers

Flim-Flam . . . . . .

Continued from page 86

8. Don't cash blank counter checks, as they are designed for use only in the banks issuing them.
9. Don't cash checks signed with a rubber stamp, written in pencil, or showing signs of alteration.
10. Don't let anyone hurry you. You're in no hurry to be taken.

HIGHEST SILICONE CONTENT

Stops Squeaks!



In 12 oz. spray cans
2 oz. and 8 oz. tubes

Dow Corning 4X SILICONE

LUBRICATES • PRESERVES • INSULATES

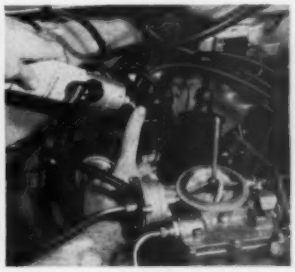
Recommended By Leading Auto Makers . . . For Finer Garage Service

Silicone-rich 4X guards weatherstripping, wiring, batteries, and rubber parts against heat, cold, moisture, weathering and corrosion. It stops squeaking and sticking of rubber to metal; aids electrical performance; keeps locks and antenna working smoothly. All of this means that Dow Corning 4X makes car owners happier . . . with your service!



KEEPS LOCKS TROUBLE FREE

4X lubricates locks, keyholes, radio antenna. Prevents freezing and corrosion. Never gums or runs. Excellent for window channels, too.



PROTECTS IGNITION SYSTEMS

Keeps moisture out of plugs, wiring, distributor, magneto. Eliminates electrical leakage. Aids engine performance—helps prevent misfires.



PROLONGS BATTERY LIFE

Minimizes corrosion build-up on cables, case, terminals; prevents power loss. Helps assure quick starts — maximum battery life. Eases cleaning.



STOPS SQUEAKS AND STICKING

Preserves weatherstripping around doors, trunks, hoods, windows. Keeps it flexible, stick-proof. Helps preserve rubber mounts and fan belts for more dependable service.

NONMELTING, NONFREEZING, NONGUMMING... FROM -40° TO 400°F.!

There's no substitute for SILICONES for better car care . . . and Dow Corning 4X is highest in silicone content! Order from your jobber now!

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Dow Corning CORPORATION
MIDLAND, MICHIGAN

ATLANTA BOSTON CHICAGO CLEVELAND DALLAS LOS ANGELES NEW YORK WASHINGTON, D. C.

Safety Inspection . . . . . Continued from page 94

issues, so Dan looked at his next repair order.

Fortunately, the next two cars were new ones, sent up from a friendly competitive dealer who had temporarily been suspended from issuing inspection certificates. It seems the dealer's one inspector had become too lenient, or too greedy, or had fouled up in some manner. The MVI (motor vehicle inspection) people, always alert, had found him out.

They have a way, you know, of doing this. It is not only their privilege, but their bounden duty, for no man is above reproach. It is easy to cater to unreasonable demands, but one may get caught in the act.

Dan focused the headlights on one of the shiny new cars, and got them out fast. Some makeready mechanic, hadn't done his job well.

The last order called for other work, not related to inspection, but in Dan's line of performance. He breathed more freely, as he estimated he would be rid of "stickers" for about an hour. Though he had done inspections for many years, and didn't particularly dread the deed, he was grateful for a change.

From force of habit, he glanced at the windshield and saw a current certificate, pasted there about six months ago. This man, he decided, was on the ball about safety.

But as he checked the battery and wiring for a purported short, Dan turned on the headlights. He noticed that one of the four was out. Nothing on the order about that, and the customer wasn't waiting, so it would have to be left "as is" for now. Safety minded Dan could only shrug it off and forget it; but he hated the thought, for he felt sure the man believed his car would be perfectly safe for a year.

Then the operator was paging Dan to the phone. The voice of a friend, a man in charge of a sizable fleet of vehicles, came over the wire.

"Dan, we've failed to have our equipment inspected. Can you help us out?" queried "friend."

"I'll do what I can, but there's a lot of work piling up here," Dan answered. "Can't promise how long you'll have to wait."

Continued on page 124



Lisle

MODEL BB10 SPRING PRESSURE BRAKE BLEEDER

Extra advantages

AT A NEW LOW COST

- Ideal for field service calls—light in weight — no problem of running out of air pressure.
- Makes brake bleeding an easy one-man job.
- The BB10 draws fluid from clean, factory fresh cans, eliminating danger of fluid contamination.
- Can be used for regular bleeding, flushing, dispensing and surge bleeding.
- The Lisle BB10 is *spring* operated. No need for air pressure—no danger of forcing air into a brake system.
- Comes complete with new 3-thread adapter plus special adapters for Chrysler and late model Ford.

Made by Lisle so you know it's good

Lisle | AUTOMOTIVE TOOLS JEEPERS CREEPERS | BRAKE PARTS BRAKE CABLES | AIRCRAFT & AUTOMOTIVE ORIGINAL EQUIPMENT

TOOL DIVISION • LISLE CORPORATION • CLARINDA, IOWA

Paint Dept. . . . . .

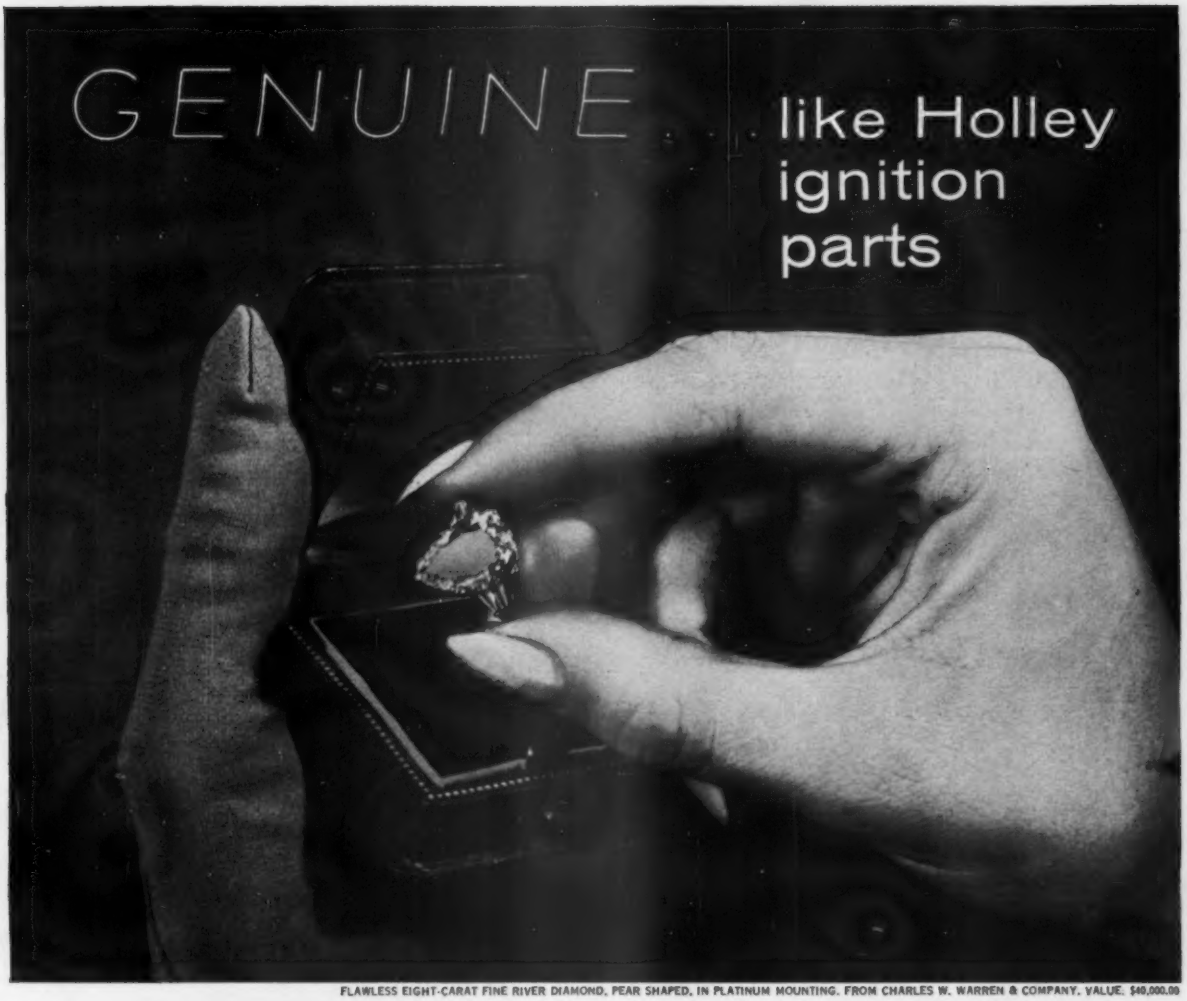
Continued from page 91

And we have no wasted materials.

"Our working foreman mixes all the colors. His enamel and lacquer inventory is periodically checked, and it's expected to tally with the amount of work that's been turned out. Too, he's responsible for the assigning of spray guns, and their maintenance.

"All materials are checked out from our Central Parts Control Center. Before one of our personnel can get as much as a roll of masking tape, he has, first, to turn in the core, and sign out for the new roll," Howard concluded.

Modern equipment plays a vital part in this outstanding operation, it was reported. The bake oven is indispensable, though it's a fairly recent acquisition.

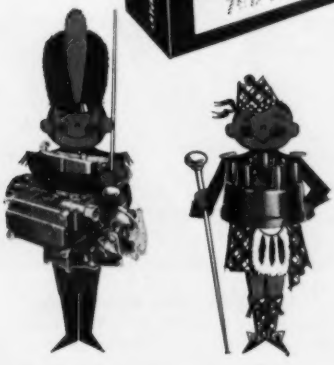


FLAWLESS EIGHT-CARAT FINE RIVER DIAMOND, PEAR SHAPED, IN PLATINUM MOUNTING. FROM CHARLES W. WARREN & COMPANY. VALUE. $40,000.00

HOLLEY *distributor repair kits*

A Complete Ignition Tune-up in One Low-Cost Package





Whether it's jewelry or ignition parts, no imitation matches the *genuine* article for real satisfaction. You'll find only *genuine* Holley Ignition Parts—made to exacting *original equipment* specifications—in the low-cost Holley Distributor Repair Kits. They include everything needed for a complete minor ignition tune-up. And you're sure of that same *genuine* quality when you buy individual Holley parts—contact sets, rotors, coils, condensers, caps or voltage regulators. Better stock up with Holley now, and be ready to get your share of profitable ignition tune-up business. With only *13* Holley Distributor Kit numbers you can service all Ford-built cars and trucks. Call your Holley Distributor today.

HOLLEY
Carburetor Co.

11955 E. Nine Mile Road
Warren, Michigan

RT-44

Original Equipment Manufacturers of Carburetion and Ignition Products for Over 55 Years

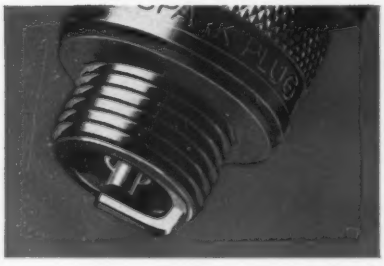
®Registered Trademark

high-flying ACtion

high sales



Springtime is car tune-up time—your chance to sell AC Fire-Ring Spark Plugs to all your customers no matter what make or model they drive. Ford, Chrysler or GM products—there is an AC Spark Plug engineered for every car and truck.



AC's exclusive "Hot Tip"—heats faster, cools faster for self-cleaning action that gives all cars top performance.



AC's exclusive "Extended Shell"—especially engineered for Pontiac, Buick, Ford, Lincoln and Mercury cars.



AC's exclusive "Solid Core Resistor"—especially engineered for Plymouth, Dodge, DeSoto and Chrysler cars.

for your customers...

ACtion for you!



AC's Big Kite Promotion—designed to help you get greater spark plug sales than ever before

This Spring, AC's SPM-87 Kite Promotion Package will be a tremendous traffic-builder for you. Each of these promotion packages contains 50 AC High-Flying Kites for use in your own traffic-building promotion. This is your chance to sell extra Springtime services—oil changes, lubrications, tune-ups and new sets of AC Fire-Ring Spark Plugs. Talk to your AC supplier right now. Get all the details on the SPM-87 package. It's another example of AC advertising and merchandising support—the greatest in the industry!

AC SPARK PLUG ✿ THE ELECTRONICS DIVISION OF GENERAL MOTORS

Here are other advantages you get when you stock and sell AC:

- Wide accessory line of the highest quality products—sold only under the nationally famous AC brand name.
- Greater replacement potential with reliable products engineered for quality replacement on all cars and trucks.
- Better profit margins through faster turnover; plus, AC's continuous product improvement policy.

get the selling edge with AC merchandising programs

Reliable Products by AChievers

Buick Skylark . . . . . Continued from page 61

our quality and reliability programs are at an all-time high."

Skylark offers the very best of Buick which this year won for the entire 1961 line a styling award from the American Institute of Decorators, the first ever presented within the automobile industry.

The Skylark is a four-window, thin pillar deluxe model, available only as a sports coupe. Its unitized body is fitted with 49-inch-wide doors for ease of entry.

It is 188 inches long, mounted on a 112-inch wheel-base and weighs about 2700 pounds, some 1,600 pounds less than conventional size 1961 Buicks giving it one of the highest power-to-weight ratios of any American production automobile.

Newly-designed front bucket seats and white fabric covering for the metal top are also available as optional equipment.

The top covering, which sets Skylark apart from all other cars, is a Landau fabric, coated with long-grain vinyl to retain its new car appearance.

Identifying the Skylark are many new features: its distinguishing sheer roof-line; the Skylark emblem on its sail panels; and an entirely new radiator grille with a strong horizontal theme; new headlamp adapters; fresh rear-quarter sculpturing with a new interest line identifying higher rear wheel openings; wrap-around tail-lamps with extension appliques sweeping forward to set off rear quarters; a new rectangular version of the traditional Buick ventiports; a brushed-finish chrome applique extending across the rear between the tail-lamps, exclusive turbine-styled wheel covers, and interior courtesy lamps inside the sail panels.

The Skylark interior is of the rich Calais fabric used in the Electra 225, Buicks top luxury model. It employs fully bisquited designs and self-covered buttons on both the standard bench seat and optional bucket seats.

Three interior colors are available with the Skylark-fawn, a rich medium blue and a high fashion silver, all in jewel-toned vinyl accenting the designs. Buick's 15 exterior colors are all available on the Skylark.

The Skylark 185 engine is standard. It produces 185 horsepower with a compression ratio of 10.25-to-one, a new four-barrel carburetor and a new intake manifold.

Skylark obtains maximum performance from its new engine through a 3.36 axle ratio and an enlarged exhaust system to effectively utilize its increased power. Both are standard.

Buick's synchromesh three-speed transmission also is standard. The Dual Path Turbine Drive transmission, introduced on Buick Special last fall, is optional.

Now...you can have this NEW

Bishman Tire Changer

WITH AIR POWER Bead Breaker

for ONLY $109.50

Dealer Price



Bishman combination tool makes mounting and demounting easy. Built-on tool and lubricant holders eliminate extra tool rack.

The BIG Bishman air cylinder and "Rolling Action" breaker shoe used on Bishman ELECTRIC-AIR Tire Changer BREAK THE TIGHTEST BEADS.

PLUS

FAST "Posi-Lock" Wheel Holder

Simple lever on cone locks the wheel tightly. One quart Rub-Er-Slide, applicator and "No Drip" holder furnished. Handles tires through 19 ½".



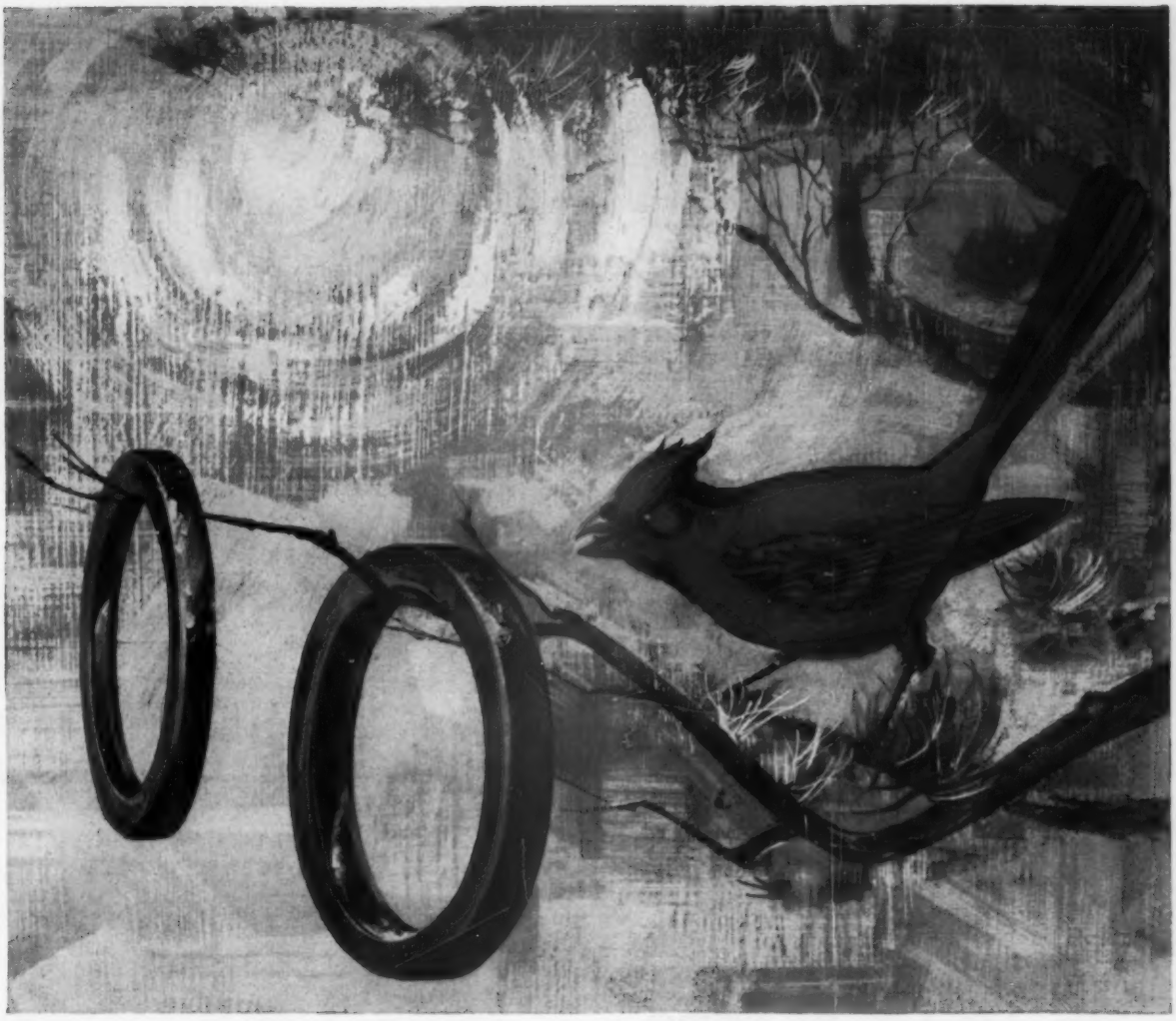
This BISHMAN 883-EC ECONOMY TIRE CHANGER is easy to buy...pays for itself. Ask your Bishman Jobber or write.

World's largest manufacturer of Electric Tire Changers

Bishman MANUFACTURING CO.
ROUTE 2, OSSEO, MINN.

NEXT MONTH . .

Dodge Motor Home Featured



Used seals are for the birds!

Replace with National... the only line that can match any seal you pull!

Prevent complaints on wheel bearing jobs by pitching pulled seals every time. Even if the seal looks good, it can allow dirt to creep in and lubricant to seep out. So give your customers some inexpensive insurance by replacing with National every time you pull a wheel. National has virtually every type and size of seal you'll ever need. They're made in both Micro-Torc® leather and Syntech rubber to give you the right seal for any job. Metal parts are phosphate coated to improve rust-resistance. Call your National Seal jobber now for immediate delivery on the best . . . from the one *complete* line. You'll find that the service you get is just as thorough and complete.



NATIONAL OIL SEALS

FEDERAL-MOGUL SERVICE
DIVISION OF FEDERAL-MOGUL-BOWER BEARINGS, INC. • DETROIT 13, MICHIGAN

AC SELLING SLANTS

MONEY-MAKING FACTS

For the best air filter deal ever-

Join the AC

with the AFM-89
Merchandising Package



YOU GET 12 FAST-MOVING AC AIR FILTERS

Special design and construction features make AC Air Filters over 99% efficient—assuring complete customer satisfaction. The filter elements in the AFM-89 Package cover over 90% of the passenger car market, and include the following types:

- 2-A63C
- 2-A86C
- 2-A53C
- 1-A81C
- 1-A66C
- 1-A85C
- 1-A59C
- 1-A49C
- 1-A90C

FABULOUS CATALOG OF EXCITING GIFTS

AC's big Parade of Prizes is far more than just another premium offer. You get your choice of over 350 top-brand gifts for a whole range of activities and desires. There's sporting equipment for golf, fishing, hunting, baseball and other sports. Camera equipment, jewelry, luggage, radios, TV sets and many exciting gifts for the homemaker. Parade of Prizes is continuous—so you can save prize points from this and other Parade of Prizes Programs for bigger gifts.



OF THE MONTH ! AC

FOR DEALERS

Parade of Prizes

Here's an opportunity to cash in on added profits and wonderful gifts—just by stocking and selling top-quality AC Air Filters. AC Air Filters are used as original equipment on all General Motors cars: Chevrolets, Pontiacs, Oldsmobiles, Buicks and Cadillacs. In addition, there are AC Air Filters designed to fit all cars. If you've joined the Parade of Prizes in other AC promotions, then take advantage of this opportunity to build prize points for still bigger gifts. Best of all—Parade of Prizes gifts are yours for just the regular cost of the air filters in the AFM-89 Package. You make your full profit on every element sale. Join the Parade of Prizes today!



SALES CONTEST CHART

You can build prizes and profits faster with an employe sales contest. Several suggestions for rewarding the winners are given on the chart.

340 PRIZE POINTS

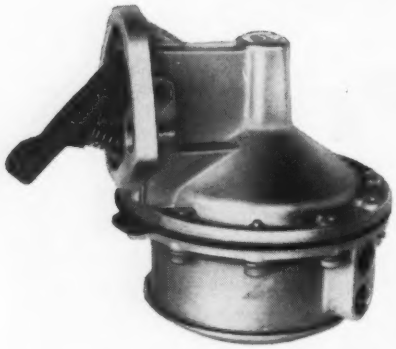
You can redeem these prize points immediately for many fine gifts—or save them for bigger prizes. The program is continuous.

Here's how to get the AFM-89 Merchandising Package—To join the AC Parade of Prizes, all you have to do is pay your regular dealer price for the 12 popular AC Air Filters contained in the package. You keep your full profit on every air filter sold. The contest chart, Parade of Prizes catalog and Prize Point Certificates worth 340 points are included at no charge.

ORDER FROM YOUR AC SUPPLIER TODAY!

AC **SELLING *SLANTS***

MONEY-MAKING FACTS



Strike up the band
for greater profits and prizes
in AC 's fabulous

"Parade of Prizes" Promotion

Here's the greatest prize jackpot in the industry—available to you for selling AC Fuel Pumps with the FPM-90 Merchandising Package!

Even the market is in your favor! Easy-to-install fuel pumps are increasing in sales yearly—and are one of the most profitable replacement items. The best way to cash in on this high-profit replacement business is to keep an adequate stock of fuel pumps on hand. Here's your opportunity to stock up with the leading fuel pump on the market and get exciting gifts besides. You get all these benefits and more with AC's fabulous Parade of Prizes FPM-90 Merchandising Package.

6 FAST-MOVING AC FUEL PUMPS

Included in FPM-90 are 6 fast-moving AC Fuel Pumps for the low-price lines of the "big three." The package contains one each of the following numbers: 4460, 4149, 4206*, 4208, 4123, 711. **Combination pump*

OF THE MONTH ! AC

FOR DEALERS





SELECT FROM OVER 350 FAMOUS-BRAND GIFTS

AC is actually giving you your choice of over 350 top-quality gifts for stocking and selling AC Fuel Pumps. All of these top-value gifts are pictured and described in the colorful Parade of Prizes catalog that comes with each FPM-90 Package. Best of all, these gifts won't cost one cent more than the cost of the fuel pumps alone. What's more—the Parade of Prizes Program is continuous so you can save prize points from this and other AC Parade of Prizes Programs for the larger gift you've always wanted.

FPM-90 ALSO INCLUDES:

Valuable Prize Point Certificates worth 400 points redeemable immediately for any one of 45 gifts, or accumulated for a larger gift.

Dealers' Sales Contest Chart makes it easy and profitable to hold a Parade of Prizes fuel pump sales contest among your employes.

HERE'S HOW TO GET FPM-90

To get FPM-90 and join the AC Parade of Prizes, all you have to do is pay your regular dealer price for the 6 popular AC Fuel Pumps contained in the package. You keep your full profit on every fuel pump sale. The contest chart, Parade of Prizes catalog and Prize Point Certificates worth 400 points are included at no charge.

ORDER FROM YOUR AC SUPPLIER TODAY!

New SMASH PROFIT MAKER



New K-D combination tool . . .

a Purolator exclusive. It is both a hose-clamp pliers and a tube cutter. Three cutting wheels mean ⅓ the swing for faster, easier operation. Makes working in tight places a breeze.

3-way rack—a real sales maker

- On the wall.
- As a counter display.
- Or piggyback on R55—R59 racks

from Purolator

Gasoline filter GF-61 Merchandising Pak

Everything you need to cash in on the high-volume . . . high-profit gasoline filter market

- **Rack**
- **Tool**
- **ABC's of Gasoline Filters**
- **Window streamer**
- **12 fast-moving filters**

ALL FOR ONLY $17.35

(Price includes $1.99 to cover cost of combination tool and 3-way rack)

Get started now—here's how . . .

. . . with the GF-61 Gasoline Filter Merchandising Pak. The Pak gives you a filter to fit every car that drives into your station. Makes every customer a prospect. *Installs in minutes!*

Tell your customers how a Purolator Gasoline Filter can stop trouble before it starts. How the Super-Micronic filter element removes rust, dirt, scale and sludge—down to 1 micron (39 millionths of an inch).

"Listen to the Man" . . . that's what we're telling your customers in the biggest radio campaign in filter history. So be the "man to listen to." Sell your customers the utmost in filter protection . . . a Purolator Gasoline Filter. Start casbing in on this high-profit opportunity today. Order your Purolator Gasoline Filter Merchandising Pak from your Purolator supplier.



Available in most areas June 1st.

The Standard Equipment Line

PUROLATOR

OIL, AIR & GASOLINE FILTERS

"Purolator" and "Super-micronic" Reg. U. S. Pat. Off.

PUROLATOR PRODUCTS INC., RAHWAY, N. J.; TORONTO, ONTARIO, CANADA

END FILTER CLOGGING
...and costly service complaints with...
MILEAGE MINDER



Clogging filters are today's No. 1 trouble spot on more than 6½ million cars with in-the-line fuel filters. Replacements only duplicate the problem. Your one solution — MILEAGE MINDER, with patented self-cleaning, non-clogging filter.

MODEL MM 300
$6.95
Compact metal bowl Model MM 200 M.B. $7.95

MILEAGE MINDER CO. 3380 17th St. San Francisco 10, Calif.

The Mechanic's Best Friend!
LIQUID® WRENCH
Loosens Rusted Bolts
nuts, screws, "frozen" parts!



The super-penetrating rust solvent that quickly loosens rust and corrosion.
YOUR JOBBER HAS IT!
RADIATOR SPECIALTY CO.
CHARLOTTE, N. C.

Letters To The Editor

More Info On Prefab Buildings Wanted

Dear Editor:

I read over the manual of Good Shopkeeping in the December issue of Motor Age and found it interesting and factual. I intend to save it for future reference in planning automobile dealerships. I hope in your future articles you will be able to touch on the economy and durability of prefabricated steel buildings somewhat more emphatically.

John W. Schraffenberger
Marketing Service
Armco Drainage & Metal Products, Inc.

Dear Editor:

Kindly send free floor plans for an auto agency to handle 250 new cars per year and proportional used car lot to handle trade for above. Your Motor Age is a very welcome journal, as we now study it more closely. Your latest service has more merit than most architects have imagination. If possible, locate plan on either a corner lot or a 300′ frontage on a main blvd. No gas pumps. Thank you for your courtesies and service.

Fell F. Nemith
Nemith Auto Co.
Latham, N.Y.

Dear Editor:

In the December issue of Motor Age there was an editorial and some information on floor plans for repair shops. Would you please let me know if additional information is available? I am particularly interested in obtaining floor plans for paint and body shops. Thank you.

Don Baxter
Woodward, Okla.

Fitzgerald Gaskets have the answer!

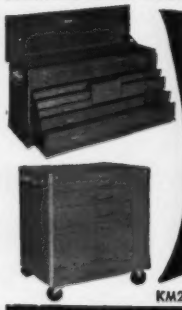


...and the added extra Craftsmanship

The Fitzgerald Manufacturing Co.
Torrington, Connecticut
Chicago Los Angeles Toronto

SIOUX
AIR IMPACT WRENCH
• Delivers 15% more torque
• Consumes 30% less air
ALBERTSON & CO., INC. • SIOUX CITY, IOWA, U. S. A.

If you use tools
You Should Be Using
KENNEDY Tool Boxes



★Write for Complete Catalog
KM22
KENNEDY MANUFACTURING CO. VAN WERT 6, O.
Pioneer in the Manufacture of Quality
TOOL BOXES, TOOL CHESTS and ROLLER CABINETS

Universal's **NEW** *time-saving*

LUBRICATION TOOLS

Engineered for Cars that have GREASE SERVICING PROBLEMS

- **Quick Loading**
- **Air Charged**
- **One Hand Operation**
- **Economically Priced**



STEERING LINKAGE KIT Model 7500

Fitting adapter designed to fit easily into tapped hole after plug removal. Grease Gun is quickly air charged, and can easily handle the heaviest greases.

★ Model 7501
Quick Loading Air Primed Hand Gun

★ Model 7503

★ Model 62

Ball-Joint Adapter with Connecter

★ Model 7504 UNIVERSAL Joint Adapter

★ Model 7505 Propeller Shaft Adapter

★ Air Primed Hand Gun and Adapters may be purchased as single Units.

See Your Nearest Jobber

UNIVERSAL LUBRICATING SYSTEMS, INC.

601 Allegheny Ave. • Oakmont, Pa.

Report...from Popular Science

355 Lexington Avenue, New York 17, N.Y. *Monthly*



Champion's "Win Your Own Airliner" contest now in full swing

This big two-page ad in POPULAR SCIENCE plus 16 other consumer magazines will reach 9 out of 10 car owners (a total of 65 million copies).

Retail dealers have big opportunities to earn extra profits . . . dealers and motorists win identical prizes

One of the biggest things going on in the automotive world right now is the exciting Champion Spark Plug contest, with what is perhaps the most unusual grand prize ever offered—your own private airliner and crew for two weeks, with all flight expenses paid anywhere in North America. Plus $5,000 spending money and all tax paid on the total first prize!

Not only can a motorist win this, but, as you have probably heard, the dealer or dealer's employee who certifies the winning motorist's entry wins an identical prize—right down the line through 1160 prizes!

This contest, which was announced to motorists recently in the May issue of POPULAR SCIENCE and in 16 other leading publications, has a sound merchandising purpose behind it which will benefit both retail dealers *and* motorists!

It's based on the fact that the average motorist just doesn't take the time to have all the things done to his car that should be done—such as having his plugs checked. (That's why about half the cars in use need new spark plugs.) By requiring motorists to have their plugs checked to enter, Champion hopes to open up the hoods of America's cars to servicemen.

Since experience has proved that checking plugs sells plugs—and other needed parts and services also, this contest stands to benefit a great segment of the automotive service industry. And best of all, it means that motorists will be having needed service work done so their cars will run better. And dealers and motorists get a chance at the fabulous prize list at the same time.

POPULAR SCIENCE's versatile editorial coverage sharpens the readers' interest in all that is significantly new in the automotive industry—features more automotive editorial, to give the reader a greater under-the-hood knowledge, than any other leading consumer magazine. POPULAR SCIENCE's brand-conscious readers consider the magazine vital to their knowledge in selecting and purchasing quality automotive products.

AMERICA'S FOREMOST AUTOMOTIVE MARKET



ON SALE AT YOUR NEWSSTAND

THIS
Herbrand
TUNE-UP
CENTER
only
$329.95



THE HT-900

★ NO SPECIAL SCHOOLING—
★ WHY PAY MORE?

A full year guarantee backs this first practical portable tune-up center. It is entirely self-sufficient — has no batteries, chargers or permanent hook-ups. Equipment includes Herbrand's "controlled output" Timing Light, Coil-Condenser Tester, Generator-Regulator Tester, Combination Dwell-Tach, Compression Gauge and Adaptors, Remote Starter Switch, plus a Vacuum and Fuel Pump Gauge. The professional cabinet even has three drawers for ignition parts, starters and generators.

See it—make your own test. Ask your jobber.

Herbrand Equipment
HERBRAND DIVISION • THE DUNHAM-HERBRAND CORPORATION • FREMONT, OHIO

New Products . . . .

Continued from page 66

mounts on the transmission tunnel or virtually flat Corvair floor with two adhesive hook strips. No drilling or cutting is required. *Write: Chevrolet Motor Division, General Motors Bldg., Detroit 2, Michigan.*

Chilton Manuals . . .

By Paul A. Murphy

Continued from page 70

marily driven with the crankcase temperature below 135 degrees Fahrenheit, is to change the oil and the oil filter at intervals so arranged that the percentage of engine sludge is kept at a minimum.

Good, clean oil never hurt any engine. It is a false economy to prolong oil changes and eventually run into high engine maintenance cost.

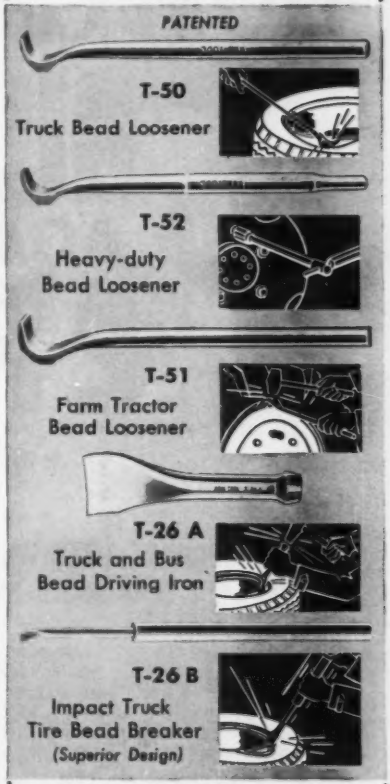
Another approach: Some of the large fleet operators engaged the services of a chemical laboratory to analyze the condition of the oil. This is done by removing a small amount (less than one-half pint) of oil and sending it to the chemical analysis people, who in turn give them a detailed report on the sample. This method is economically feasible where large quantities of oil are involved because it allows the fleet operator, without any gamble, to extend oil change operations for the greatest safe periods. Some fleets with high priced equipment (such as off-the-road equipment) operating under extremely cold conditions, make it a point to examine the oil daily in order to prevent high sludge formation, and if the weather is severe enough and the oil is contaminated with enough water, freezing may occur and clog the inlet strainer, causing very costly engine failures.

Since it is virtually impossible, without the aid of a chemical analysis, to tell the condition of the oil in the crankcase, the best insurance you can buy is to change the oil.

Change
Truck Tires
EASIER with
JOB-DESIGNED
KEN-TOOL
QUALITY
BEAD LOOSENERS

Free frozen beads quickly with exclusive Ken-Tool Bead Looseners. They provide greater leverage . . . loosen the most stubborn truck tire beads quickly, easily.

PATENTED



T-50
Truck Bead Loosener

T-52
Heavy-duty
Bead Loosener

T-51
Farm Tractor
Bead Loosener

T-26 A
Truck and Bus
Bead Driving Iron

T-26 B
Impact Truck
Tire Bead Breaker
(Superior Design)

SEE YOUR JOBBER on the complete line of *Job-Designed* Ken-Tools. Forged by the largest exclusive manufacturer of top-quality Tire-changing Tools and Equipment. THE KEN-TOOL MFG. CO., AKRON 5, OHIO.

JOB-DESIGNED
KEN-TOOLS
TIRE-CHANGING TOOLS KNOWN, USED AROUND THE WORLD



Now! DOWGARD® Coolant

GUARANTEED AGAINST LOSS FOR 2 FULL YEARS

(OR 24,000 MILES!)

NEW GUARANTEE GIVES YOU BIG NEW PLUS FOR YEAR'ROUND PROFITS!

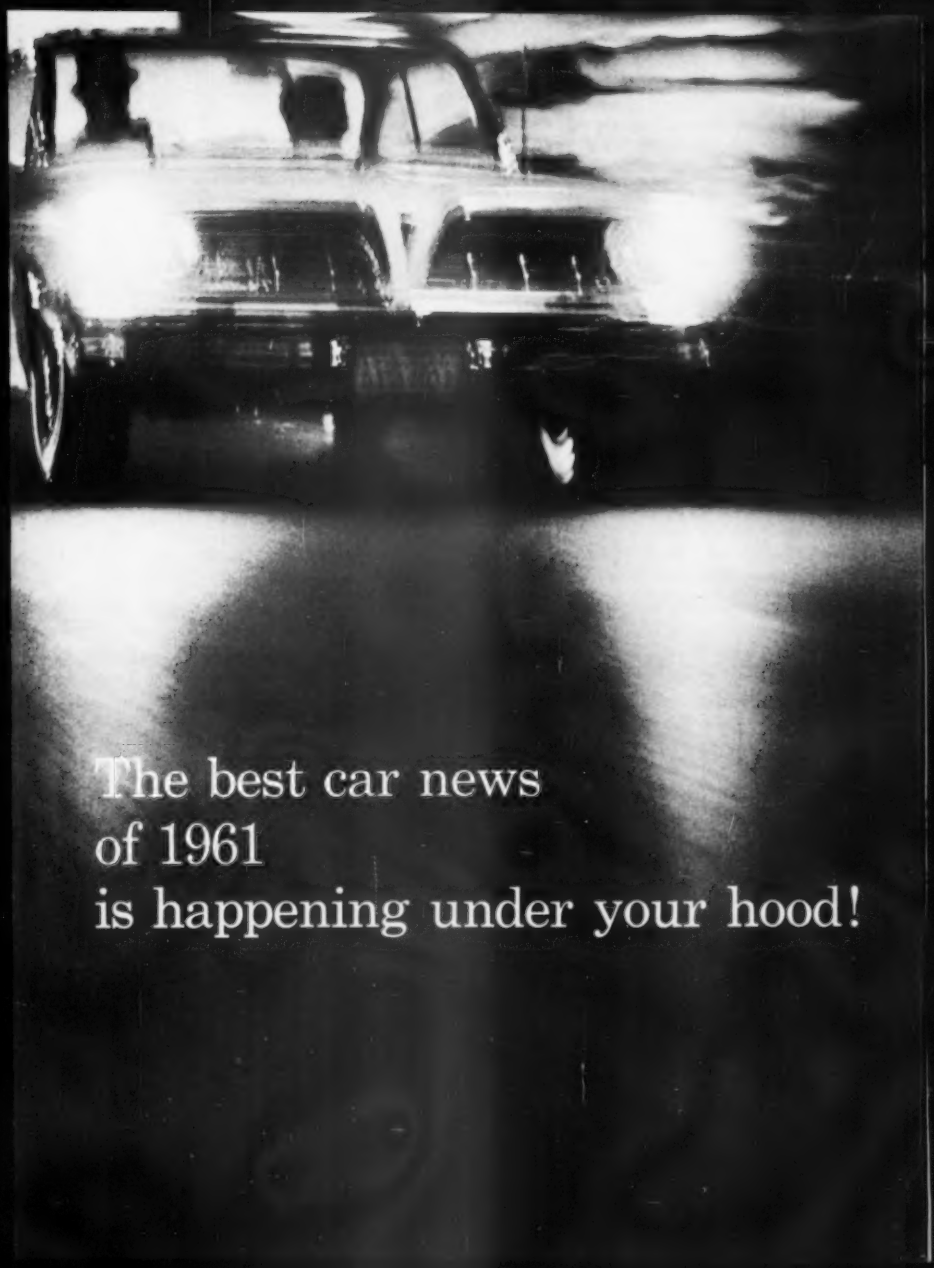
In 1958 cars or newer, DOWGARD Coolant is guaranteed against loss by Dow for two full years or 24,000 miles, whichever occurs first. (Replacement for loss the first six months is free; from 6 to 18 months 50% of retail price; from 18 to 24 months 75% of retail price.) This means that customers will get all the benefits of DOWGARD through 1961, '62 and part of '63 (summer and winter) for only about 50¢ per month. The guarantee requires customer call-backs for an inspection every six months. DOWGARD must be installed by a service dealer. (We insist on this because we honor the guarantee.) This new guarantee policy gives you a stronger sales approach.

NOW, SELL TWICE THE VALUE— AT NO INCREASE IN PRICE!

After continuous testing and use in the field, DOWGARD Coolant has proved it's good for a lot longer than just one year. Therefore, Dow now recommends its use for two full years. There's no change in price . . . no change in DOWGARD Coolant's superior ability to stop rust and corrosion damage in the cooling system . . . plus guaranteed freeze protection anywhere in the continental U.S.A. and outstanding protection against overheating. What's more, DOWGARD adds life to an engine—a bit more zip, a lot more dependability. DOWGARD gives you new selling opportunities—not just for one season—but year 'round, year after year.

DOWGARD COOLANT IS SOLD THROUGH SERVICE DEALERS

DOW DISTRIBUTION POLICY ANNOUNCED EARLY IN 1960 STILL STANDS. DOWGARD COOLANT WILL BE SOLD THROUGH ESTABLISHED NEW CAR DEALERSHIPS, SERVICE STATIONS AND INDEPENDENT GARAGES


The best car news
of 1961
is happening under your hood!

What's the news?

MONEY! Saved for you through the prevention of clogged radiators and plugged pressure caps. This added protection will prevent rusted water pumps, burned valves, scuffed cylinder walls, overheating of transmission and engine oil, fuel squandering, and loss of air conditioning caused by cooling system failures.

And what's new?

DOWGARD® FULL-FILL® COOLANT!— A new concept in automobile cooling system fluids that can save you many repair bills by keeping the many parts of your cooling system in "like new" condition from the day your car rolls off the assembly line!

What is DOWGARD Full-Fill Coolant?

Chemistry looks under your radiator cap. Dow chemists took a close look at the most overlooked part of your car . . . the cooling system. They chopped engines like yours apart, dismantled radiators. Part by part, they found grim evidence of clogged radiators, corroded water pumps, thickly scaled engine blocks! Even with "normal" care, cooling systems were found to have aged long before their time.

A close look proved, for complete protection, everything under the cap should come from the lab! When the final inspection had been completed and the evidence weighed, one fact was clear: your car's worst enemy is water. Even when mixed with antifreezes or rust inhibitors, ordinary water turned cooling systems into "boiler systems." The answer? Permit no ordinary water in the system! Instead, produce a completely laboratory-controlled fluid for your car's engine.

A NEW CONCEPT IN COOLANTS

DOWGARD Full-Fill Coolant is the first coolant of its kind. It represents an entirely new concept in automotive coolants. Nothing is ever added to DOWGARD Full-Fill Coolant . . . no water, no rust inhibitors, nothing. DOWGARD Full-Fill Coolant is used to fill your car's cooling system from bottom to top.

WHY THEY GOT RID OF ORDINARY WATER!

(and why you should, too)

The good is none too good and the bad is murder on metals! On a hot day when thirst is every third word you think of, a bubbling spring, a water hose or a sink faucet is about the best thing you can find. Great for you, perhaps, but not for your car.

Water, in its most pure state (rain) absorbs carbon dioxide from the atmosphere as it falls to earth. Water with carbon dioxide, after it enters the earth, dissolves many minerals and carries them along either suspended or in solution. Sediment, microorganisms, fluorides, calcium and magnesium salts join the parade by the time rain water has become "well water."



In a six-week test, discs of these cooling system metals were inserted in DOWGARD Coolant and also in a solution of a good antifreeze and water. The difference between the two sets of discs was remarkable. Those taken out of the antifreeze-water solution showed definite signs of rust and corrosion. On the discs which had been in DOWGARD—not a speck!

Even soft water is hard on your car!
Water in your area may be soft as a downy pillow yet be hard on your car's cooling system.
Why?

Because water impurities are divided into two groups. Those that cause water to be "hard" are calcium and magnesium. Remove them and the water can still be corrosive. That's because of other corrosive elements which may be present in even soft water. These elements are chlorides, sulphates and bicarbonates. They're extremely corrosive in a cooling system, not only attacking metal surfaces, but building up formations of corrosion products on engine walls.

Ordinary inhibitors were a compromise that didn't satisfy Dow chemists!
The trickiest thing of all about natural water, however, is its variable composition. Impurities in water where you live may not be the same in the next state . . . or even in the next county. This has made it impossible for chemists to develop an inhibitor capable of protecting all the metals, including aluminum, in your cooling system equally well in all waters.

Rust inhibitors (even those put in antifreezes) have had to be compromises, designed to do fairly well under most conditions but not necessarily the best under any given water condition. The only way to build the perfect inhibitor system was to formulate the complete coolant.



What DOWGARD Coolant does for you and why

Improves Performance and Economy! The better you vaporize your fuel, the more you economize. DOWGARD Coolant can help your car's intake manifold vaporize the fuel-air mixture better while on its way to the combustion chambers. This is possible because DOWGARD Coolant permits your engine to run closer to optimum temperature. You get better manifolding, better fuel distribution.

This can mean better performance, increased gas mileage. In addition, DOWGARD keeps this temperature level under control by keeping the cooling system clean. Water, by causing rust, corrosion and clogging can boost metal temperatures *too* high in time, producing actual engine damage such as burned valves, cylinder wall scuffing.

DOWGARD Coolant keeps flowing, you keep going in cold weather or hot. DOWGARD Coolant is especially important when you're in slow, bumper-to-bumper traffic during the summer and your car's engine has to pant like a hunting panther to catch a breath.

Water will often "after-boil" if you shut your engine off suddenly after a hot trip, causing coolant to escape and make things even worse when it comes time for you to take off again. DOWGARD Coolant resists boiling, performing its proper function of heat transfer long after water would have boiled away.

At the other end of the thermometer, DOWGARD Coolant is guaranteed to protect against freezing damage anywhere in the continental U. S. (Details on back cover.)

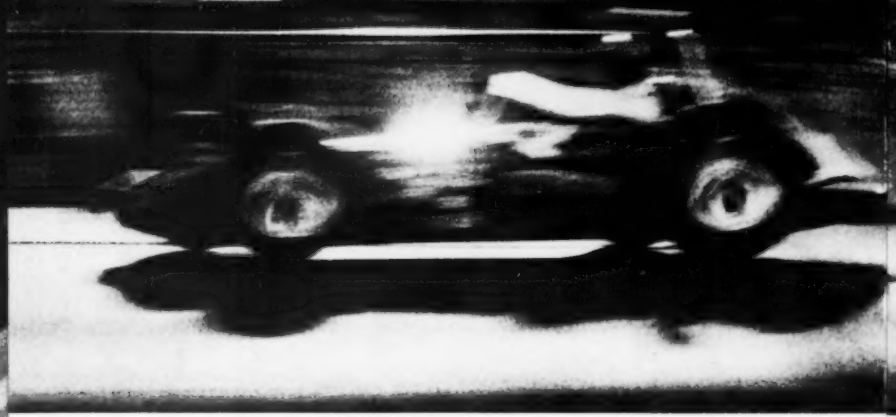


Takes the heat off air-conditioned cars! Air conditioning puts an extra load on your car's engine, often causing it to overheat just while you're trying hardest to beat the heat. The safety margin in DOWGARD Coolant means that it will stay put, keep cooling, longer than water. And in factory installed air conditioning units where the evaporator coils and heater core are sometimes made in one unit, DOWGARD Coolant will prevent freezing in the heater core.

Keeps octane requirements constant! Water-caused corrosion can even make your gas bill jump. It's as simple as this: When your engine starts running too hot because of poor heat transfer through the cooling system, your engine's octane appetite jumps. A little scale can materially increase the temperature of cylinder combustion walls. In time, your engine could start requiring gasoline with a higher and higher octane rating. You can keep your engine from developing such expensive tastes by keeping DOWGARD Coolant in the system from the day you buy your car.

Helps control fluid temperatures in automatic transmissions! The same liquid that cools your engine also cools the fluid in your automatic transmission. A little corrosion on this "intercooler" through which the transmission fluid flows can increase oil temperature, reduce oil oxidation life and decrease the life of transmission seals. DOWGARD Coolant assures you of clean controlled cooling in this vital area.

Maintains cooling systems at full capacity by preventing rust and corrosion! Water can actually shrink your car's cooling system capacity. The build-up of scale on cooling system walls limits the amount of coolant that can be circulated. It also restricts its flow. This is critical in modern high-compression engines, loaded with power equipment that was never dreamed of in the older days of the big, exposed radiators. Your engine needs every quart of cooling capacity it was designed for. DOWGARD Coolant keeps the cooling system in "like new" condition, *cooling* metal surfaces instead of insulating them with scale and corrosion.



DOWGARD Coolant gets the checkered f

EVENT	RESULTS
CAMORADI U.S.A. World Championship, Nurburg Ring, Germany	1st Over-all, 1st in Class, Fastest Lap
LeMans 24-Hour Endurance Race, France	10th Over-all, 2nd in Class
Road Americas, Wisconsin	1st Over-all, 1st in Class, Lap Record
INDIANAPOLIS MOTOR SPEEDWAY "500"	5th, 7th and 12th places; Qualifying Record
NATIONAL DRAG CHAMPIONSHIPS, DETROIT	1960 Top Stock Eliminator
NASCAR GRAND NATIONAL CIRCUIT:	
Darlington, S. C. "Rebel 300"	1st, 2nd, 3rd places
Charlotte, N. C. "World 600"	1st and 3rd places

EVENT	RESULTS
Hanford, California	1st, 2nd, 3rd places
Nashville, Tennessee	2nd and 3rd places
Weaverville, S. C.	1st place
Darlington "500"	2nd, 3rd and 4th places
USAC, Langhorne, Pa. "50" Double-header	Two 1st places; 2nd to 31st completing cars finished with DOWGARD Coolant
PIKES PEAK AUTO HILL CLIMB:	
Championship Division	3rd, 7th, 8th, 9th, and 10th places
Stock Car Division	2nd and 3rd places
Sports Car Division	1st, 2nd, 3rd and 4th places

—AND DOWGARD COOLANT IS NOW ON ITS WAY TO MORE VICTORIES IN 1961!



DOWGARD Coolant finishes in first 10 again and again during '61 NASCAR Daytona Speed Weeks

An impressive total of 73.8% of all participating cars used DOWGARD Full-Fill Coolant during the February NASCAR Speed Weeks. And driver confidence in this new coolant was well placed. DOWGARD was used in from 4 to 8 cars placing in the first 10 in every major event on the fast, 2½-mile track.



edflag under grueling race conditions!

DOWGARD Coolant rode with the winners around the world in 1960!

In 1960, race drivers and mechanics had a new coolant to use in their hot, high-cost vehicles. Of the hundreds of cars using DOWGARD Coolant in races here and abroad, *not one* failed to finish because of overheating caused by the coolant. *The schedule at the left lists some of the events in which* DOWGARD *Coolant was "entered" with rewarding results.*

Here's what race drivers say about DOWGARD Coolant!



Lee Petty: "DOWGARD kept the cars of both myself and my son Dick running at perfect racing temperature throughout the Firecracker '250' at Daytona. We are both real happy with DOWGARD."



Rex White: "DOWGARD has performed perfectly for me every time. I no longer race anywhere without it. I think you really have a real advancement in engine cooling with DOWGARD."



Jim Wangers: "We used DOWGARD in all our entries during the 1960 National Drag Championships . . . including the winner, of course. We'll be using DOWGARD again this year—every little edge counts!"

What they learned at the track is just as true for you in traffic!



You can't lose—it's guaranteed against loss and freezing. In 1958 cars, or newer, DOWGARD Full-Fill Coolant is guaranteed by Dow for a period of 24 months or 24,000 miles, whichever occurs first, against loss of the coolant from the cooling system—irrespective of the cause.

This guarantee covers, for example, loss resulting from such things as a collision, a faulty water pump, or other matters over which Dow has no control. If a loss occurs within the first 6 months (6,000 miles) replacement is free; if from 6 to 18 months (6,000-18,000), you save 50% of the then retail price; from 18 to 24 months (18,000-24,000), you save 25% of the retail price.

The conditions of the guarantee require only that DOWGARD be installed in a 1958 or newer car by a service dealer, that the cooling system be in good condition at installation, and that the cooling system be inspected, and repaired if necessary, every 6 months.

In addition, Dow guarantees for two full years to repair any damage to the engine or cooling system, caused by freezing of the coolant, in any car, anywhere in the continental United States, in which DOWGARD has been properly installed. This *is not* subject to the limitations concerning model year, etc., which apply only to the guarantee against loss.

When you figure the cost—you'll see you save! DOWGARD Coolant is sold for a suggested retail price of $2.25 per gallon, about what you'd expect to pay for a premium coolant. For most American cars, this means a complete fill of DOWGARD Coolant costs $8 to $12. Figured over a two-year period, you pay only $4 to $6 a year for all the benefits of this laboratory-controlled fluid. Nothing else does so much for your car for so little!

Proper installation protects your investment. DOWGARD Coolant is available through your recognized service dealers. This assures you of professional installation by trained service personnel. You'll get all the good out of DOWGARD Coolant that the laboratory put into it.

Dow
DOWGARD
YEAR 'ROUND COOLING SYSTEM FLUID

Get the best out of your car—put DOWGARD Full-Fill Coolant in it today

FORM NO. 201-004-61
PRINTED IN U.S.A.

The Dow Chemical Company • Midland, Michigan Dow

NOTE: Be sure to read and keep the attached 8-page news bulletin. It makes great reading. Save it for use as a sales aid—to help you answer customers' questions and help build more year 'round business. If you want extra copies, ask your Jobber Salesman. They're free!

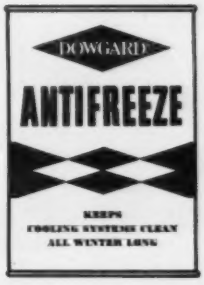
Announcing another premium product—

DOWGARD Antifreeze!

NOW! A NATIONAL BRAND ANTIFREEZE FOR SERVICE DEALERS WITH A GUARANTEE AGAINST LOSS, AND... IT'S COMPETITIVELY PRICED.

Here, truly, is the quality antifreeze for 1961 that will equal or outperform any antifreeze formulation now available. Yet DOWGARD Antifreeze is priced competitively with other dealer-installed antifreezes.

For car owners who (for some reason) still insist on antifreeze, DOWGARD Antifreeze offers the finest engine protection for one full winter. It's the premium national brand antifreeze guaranteed against loss for one full winter driving season—till May 1! Absolutely the finest antifreeze available today! Meets and exceeds every car maker's specifications for an ethylene glycol antifreeze.



THE DOW CHEMICAL COMPANY, MIDLAND, MICHIGAN DOW

STRENGTHEN YOUR SALES NOW . . . WITH THESE PREMIUM PRODUCTS FROM DOW!

Revolution under the radiator cap!

In Popular Science Monthly, June issue!



Be sure to see this special 8-page advertising section on DOWGARD* Full-Fill* Coolant in the June issue of Popular Science.

Here is the first time your customers will read the complete, factual account of this revolutionary coolant for modern cars. It's a milestone in automotive chemistry that means business for you. (If you want reprints, just ask your jobber.)

*Trademark of The Dow Chemical Company

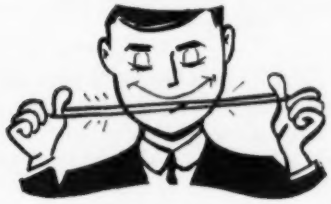


Your customers see it first in Popular Science Monthly!

Collection Letter Ideas

THESE three collection letter ideas can be used on your overdue accounts. And, unless your customer has overdue accounts with other dealers in your community the letters will have a novel and fresh appeal . . . . an appeal that will bring in your overdue dollars.

RUBBER BAND



Here's a gimmick that can be used to attract attention to your collection letter. It is a common rubber band. Your letter could read like this:

Dear Mr. Jones,

The rubber band attached to this letter has a special significance for your credit.

As you know, a rubber band stretches . . . . . so does your credit. As you buy more on credit and make regular payments, your credit becomes more elastic.

When a rubber is stretched too far it breaks. Overdue bills have the same effect on credit—stretched too far a good credit standing breaks.

Break this rubber band if you like, but please send us a check for ($00.00) to keep your credit elastic.

Very truly yours,

This is not a sure fire collection letter any more than any letter is to all overdue accounts. In fact you might get your rubber band back with this curt note: "Your rubber band is broke. So am I." However, the analogy of the rubber band and credit elasticity might be just the thing needed to collect some overdue accounts.

CHECK WRITER



You will need a check writer to give this letter its full impact. Print the amount overdue from your customer on the letter as shown below with your check writer:

Dear Mr. Jones,

The figures shown below are on our books as overdue from you. (Print amount with check writer on letter)

Would you please transfer these figures to your check and send it to me now?

Very truly yours,

The novelty of this letter will help you collect your overdue accounts. It will attract attention with the color and the impression of your check writer on your collection letter.

MAGIC CLIP



This letter may be the magic formula to bring in dollars due from your overdue accounts. Attach an ordinary paper clip to this letter:

Dear Mr. Jones,

This may look like an ordinary paper clip.....but it is a magic clip if used properly.

Use it to attach your check for ($00.00) to this letter. It will work magic for your credit standing.....

Very truly yours,

You can use unusual shaped paper clips to make the magic idea more pronounced. Or, for small overdue accounts you can use small paper clips.

Service Managers' Note Book

Electrical Cautions For Battery And Alternator Installations

MOTOR AGE stressed electrical cautions for battery and alternator installations in many previous articles. It is the desire of our Editors based upon many letters received, to continue hammering at these cautions to prevent the accidental explosion of automobile batteries and damage to the new Alternators and their Silicon Rectifiers.

If you're not very careful in the handling and servicing of these components it's going to cost you your reputation as a electrical expert and the loss of both money and customers.

When installing a battery, hooking up a battery charger, or using a booster battery to start a car equipped with an alternator type of charging system, the following precautions should be observed:

Installation of Battery

First, make sure that all switches are turned off, don't forget the radio. Connect the positive cable to the positive battery post, and the negative cable to the negative battery post. Battery posts are usually marked for easy identification. The positive post has either a "POS" cast or stamped into its top. Some have a "P" sign stamped or cast. Should all of these marks be missing, the color and size of the post can be usually relied upon to give a correct indication. The positive post is always larger ($1\frac{1}{16}$") than the negative. The positive post of the battery is the darker in color of the two. Of course, you can always use a voltmeter to indicate the post polarity. The wrong polarity hookup can cost you and your customer a set of silicon diode rectifiers. You won't get a second chance. The first flash of current in the wrong direction will blow the rectifiers and then you've had it.

Battery Charging

When a "Fast Charger" type of

Continued on page 124

Herbrand's
FORD
TAPPET
ADJUSTING
WRENCH



Specially Hardened and Hinged to Ride the Tappets – Lessen Wear

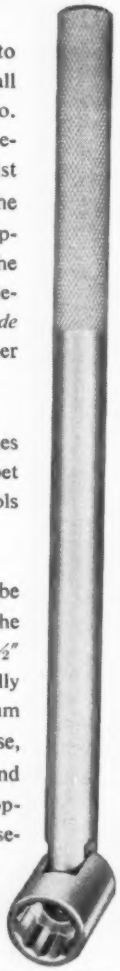
TOOL of the MONTH

Designed exclusively to adjust the tappets on all Ford products, the No. T-200 Tool is made of special alloy steels to resist wear from adjusting the hardened, self-locking tappet adjusting screws. The unique, hinged-action design lets the ½" socket *ride* the moving tappet, further lessening the wear.

Now, your box wrenches can't be ruined on tappet jobs—your regular tools last longer!

No accessories need be removed when using the T-200 Tool — the 8½" length has been carefully established for maximum convenience and ease of use, while the bright finish and knurled handle are shop-tested for long-lived usefulness. See your jobber.

Mechanic's Net $2.29



HERBRAND—Headquarters for Job-Matched Tools

Herbrand Tools

HERBRAND DIVISION - THE BINGHAM-HERBRAND CORPORATION
FREMONT, OHIO

Service Managers' Note Book . . . . . .

Continued from page 123

battery charge is used, both of the battery cables MUST be disconnected from the battery before connecting the charger. Never use a Fast Charger as a booster to provide starting voltage. Always shut off charger before connecting or disconnecting charger cables. This prevents the possibility of sparks causing a battery explosion. Sparks would ignite Hydrogen Gas produced during the charging process. Remember the "Hindenburg": It was full of hydrogen.

When using a booster battery, the negative cable of the booster battery must be connected to the negative battery post and the positive cable connected to the positive battery post. Again we caution you: When using a booster battery, connect the booster cables to the car battery before hooking them to the booster battery. It is highly recommended that you use one of the commercial type of booster battery carts or car starting sets using a remote type of starting switch. This device allows you to attach the booster unit with all power off. Operating the remote starter switch then starts the car. A unit of this type greatly eliminates the possibility of damage to battery, wiring, alternator and its transistors. However, great care must be exercised in its hook-up to assure correct polarity. Remember, polarity is of the utmost importance in today's complex electrical systems. Always disconnect the electrical load on any device to be serviced, as an example, on transistor radio units, if you pull out the speaker wire with the set turned on you can blow the transistor units. Momentary surges of current can ruin a very expensive unit. Always exercise care in servicing a electrical unit. Finally, always remember when hooking a battery into the cars electrical system, attach the ground cable LAST.

Tips On Installing New Points

Whenever you install new ignition points, always set the gap on the high side of the gap tolerance to allow for the eventual seating of the point rubbing block. According to Champion Spark Plug Company engineers who continually run tests on all types of engines, when rubbing blocks wear the point gap changes thus retarding the ignition spark timing. Setting the gap on the high side of the range eliminates this possibility since slight rubbing block wear will simply bring point spacing closer to the middle of the tolerance range. Obviuosly, if a dwell meter is used to adjust the point spacing, the points should be set on the low side of the dwell tolerance, for the same reason.

Safety Inspection . . .

Continued from page 96

"But Dan, you know how we keep our equipment in tip-top shape. There's nothing to do but just write out a bunch of the stickers," the fellow argued.

"Can't do it that way. They'll have to go through the test just like any others." Dan felt slightly disgusted, and hung up as soon as he decently could.

His friend's company spent a lot of time and money on their other various safety programs, but on this one—so vitally important—seems like they couldn't spare either.

So ends our tales—ten of them —woven around the fallacious concept of man where safety is so all-important. These examples plainly show a frightening ratio of public unconcern.

This ratio reveals that two out of ten (a third is debatable) are willing and anxious to keep their vehicles safe.

Use Your Head . . . .

Continued from page 89

what type of lift suits your particular operation.

After its installation, prepare yourself for the greatest boost in customer labor and time saved than you ever thought possible. Use it as a service selling and service performing tool. You'll never regret the lift it will give your business.

there's still time... take ADVANTAGE of THERMOID BIG T BRAKE STAND DEALS



this set of
THERMOID BRAKE STANDS--*a* $17.35
value--can be yours

HERE ARE THE DEALS...

BIG T PROFIT MAKING BONDED BRAKE SHOE DEAL #1

Buy any six axle sets of THERMOBOND FACTORY BONDED BRAKE SHOES at regular dealer prices. This qualifies you to buy



One set each of BX 2006-11 and BX 292-9	$ 8.24
One pair of rugged, Big T Thermoid Brake Stands	8.96
One set of colorful Window Wall Banners	FREE
(Shoe prices shown are exchange prices)	$17.20

BIG T PROFIT MAKING HYDRAULIC BRAKE PARTS DEAL #2

Buy $20 (dealer cost) worth of hydraulic brake parts or fluid. This qualifies you to buy



Popular Chevy brake parts assortment*	$10.91
One pair of rugged, Big T Thermoid Brake Stands	8.96
One set of Colorful Window Wall Banners	FREE
	$19.87

*Contains one TC 31066, one TE 32000, two TC 3600, two TC 13620

Profits from the sale of the brake shoes or brake parts more than pay for the stands. The Brake Stands are yours.

Take advantage of Thermoid Big T BRAKE STAND DEALS while there is still time — get all the brake stands **YOU** need NOW!

Call your local distributor now or write us direct.

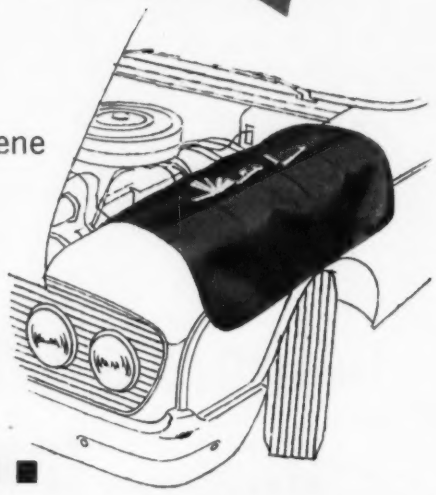
Remember the BIG T DEALS close June 30, 1961

PORTER

THERMOID DIVISION
H. K. PORTER COMPANY, INC.
200 WHITEHEAD ROAD, TRENTON 6, N. J.

ANOTHER THERMOID BIG T

Take advantage of this profit-making THERMOID BIG T Rubber Products Deal. Get this heavy duty, sponge rubber backed, neoprene protected Fender Cover—a **$6.45** value—at no charge to you by selling Indianapolis-proven Quality **Redi-Curv "500"** Radiator Hose and THERMOID BIG T Quality Fan Belts.



HERE'S HOW...







Buy 12 REDI-CURV Radiator Hose or Thermoid Big T Quality Fan Belts in any combination (6-6, 9-3, 10-2, etc.)	**$18.36***
This entitles you to a $6.45 Quality Big T Fender Cover for only	**2.98**
One set Sales Aid Window Banners	**FREE**
One Fan Belt or Redi-Curv Radiator Hose (your choice, V-29, V-123, V-180 or RC-505, RC-509, RC-526)	**FREE**
*Approximate **TOTAL**	**21.34***

You sell the FREE Big T Fan Belt or Radiator Hose and you more than pay for the Fender Cover.

Buy a minimum stock of hose and belts to meet your needs and you'll receive at least two fender covers.

Nothing could be easier—Equip your shop now with a complete set of these sturdy, high quality fender covers.

THERE'S NO LIMIT—ORDER AS MANY DEALS AS YOU NEED TODAY—RE-EQUIP YOUR SHOP NOW WITH ALL THE FENDER COVERS YOU NEED—RESTOCK YOUR SHELVES WITH "NEED IT RIGHT NOW" MERCHANDISE FOR SPRING AND SUMMER DRIVING

PROFIT-MAKING DEAL FOR YOU



BIG T 500 "REDI-CURV" HOSE FEATURES:

- All new numbering system makes it easy to order, stock and SELL.
- New butyl construction resists grease, ozone, oil, antifreeze, radiator chemicals . . . won't chip or flake to clog cooling systems.
- Maximum resistance to aging on the car or on the shelf.
- New tire cord reinforcement provides highest burst protection and eliminates stretching.
- Pre-formed, tempered steel springs give permanent flexibility and diameter retention even in long spans.



BIG T QUALITY FAN BELT FEATURES:

- One Premium Quality . . . minimum inventory dollars.
- All-Service Coverage . . . includes off-highway use.
- Pre-stretched Construction . . . for long life.
- Neoprene Jacketed . . . oil and grease resistant.

CALL YOUR DISTRIBUTOR SALESMAN TODAY, OR SEND IN THE ATTACHED COUPON FOR NAME OF YOUR NEAREST THERMOID BIG T DISTRIBUTOR

THERMOID DIVISION, DEPT. 300
200 WHITEHEAD ROAD, TRENTON 6, NEW JERSEY

You bet—I need some Fender Covers and I am interested in the Fan Belt and Redi-Curv Hose deal.

My Name_____

Address_____

City_____ Zone____ State_____

My usual jobber supplier is_____

PORTER

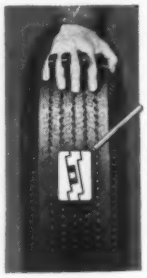
THERMOID DIVISION
H. K. PORTER COMPANY, INC.
200 WHITEHEAD ROAD, TRENTON 6, NEW JERSEY

Detroit Report...

That New Volkswagen

The new outsize VW announced for European sale (only) next fall will have an air-cooled engine. But what will drive the blower fan? Not a belt! One of the company's best-kept secrets is how it has managed to cool its engine without resorting to a fan belt. Look for the answer before summer's heat is gone.

The Grip That Can Save Your Life



What happens when you hit the brakes? The weight of the car is thrown on the tires, of course. We know you know that...but do you know that with some tires the tread can be squeezed together forming a smooth, slippery surface. To overcome this hazzard, Armstrong engineers invented the Safety Disk tread design which holds the tread ribs open, always ready to grip the road to stop deadly skids.

Can you venture a guess as to just how much of these life saving Safety Discs Armstrong has molded between the tread ribs of just one Armstrong tire? If you picked *1000* you're right! Just as the discs in the illustration keep the fingers apart, so Safety Discs keep the tire's gripping edges apart.

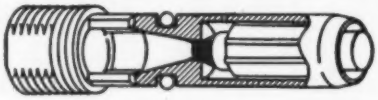
Brake as hard as you like...with Armstrong Safety Discs you're always sure of having life saving traction when you need it.

Year's Weirdest Coincidence

R. O. Stantum of Forth Worth, Texas, has a house that was built in 1941. Lately he bought a new Rambler. To his amazement, the ignition key of his car fits the front door of his house.

Cure For Carburetor Flooding

If carburetor flooding has been a major problem...listen to this. Because dirt in the fuel supply is a major cause of carburetor flooding, Holley has devised a new valve that seals perfectly even when there are contaminating particles in the fuel. The Viton Needle Valve has a resilient tip of Viton...and operates so smoothly that there can be no doubt that valve and seat are sealing perfectly everytime.



Holley's Viton needle and seat replacement assemblies are available for all late-model Holley single, dual and four-barrel carburetors. All Holley parts are engineered and built to original equipment standards.

Look What Champion Is Doing



As a traffic builder, Champion is introducing a contest to the readers of POPULAR SCIENCE and other magazines. The entrants don't have to *buy* anything...all they have to do is go to their favorite service station, car dealer or garage and get a free spark plug check and a Champion entry blank.

CHAMPION

The first prize is a trip of a lifetime ...an airliner plus $5000. The winner can tak his airliner anywhere in North America for 14 glorious days and take along 11 other people. Best of all, the tax is paid on this prize...it's all gravy. Champion is offering 1159 other valuable prizes...including a Comet sedan, Ford Falcon, Studebaker Lark, Rambler American, Lone-Star runabouts, Stromberg-Carlson stereos, Bell & Howell movie cameras, etc. Anyone for a spark plug check up?

How "INDY" Tires Keep Their Air

Ever wonder what happens to a tire valve under centrifugal force when cars streak around the track at the Indianapolis 500-mile Memorial Day race? The valve spring begins depressing at about 150 mph. To keep tires from losing air, the Schrader valve people—who have supplied valves to Indianapolis racers since 1911—manufacture an airtight cap that is screwed on the threads at a torque pressure of 30 pound-inches.

Ins and Outs Of The '61 Chevy

Chevy's got Americans sized up ...you can see that by just looking at a new 1961 Chevy. Look at the new larger door openings—as much as 6 inches wider—you can see that even 6 footers will have no trouble at all getting in or out. Once you're inside the Chevy you'll find that not only more foot room has been provided, but added head room as well. From all angles this is the car for the Big Americans.

Being that all America is on the move...to the seashore, lakes, mountains and camping in general, Chevy increased the capacity of their deep well trunk...now owners can pile in baggage 15% higher. That extra rifle or fishing gear that had to be left last year goes right along for extra enjoyment.

Chevy's Rear-Engined Racer

The CERV-1, an experimental single-seater with a lightweight Corvette V-8 mounted in the rear, rolled

Gus Wilson's

A regularly monthly feature of Popular Science

Lovely ladies do not often turn up in Gus Wilson stories, but this month you'll meet a pretty French schoolteacher, Madeline Duval, whose automobile is as capricious and unpredictable as its owner. Madeline is *désolée* when her little foreign car fails to pass at the state-operated inspection station.

"It is the horn, M'sieu Wilson," she tells Gus sadly. "She will

POPULAR SCIENCE READERS

from Popular Science

355 Lexington Avenue, New York 17, New York **Monthly**

out of the Chevrolet Engineering Center not long ago. With it came repeated assurances that it's just a high-performance testbed for future production-car parts, and definitely not a sign that Chevy plans to get into racing.

Developed under the supervision of Zora Arkus-Duntov, the CERV-1's engine weighs just 350 pounds, matching the 350 hp. it puts out. Aluminum alloys are used for block, heads, water-pump casing, starter-motor body, flywheel, and clutch pressure plate.

Perhaps significantly, the block has no cylinder sleeves; the cylinder bores are specially hardened aluminum for longer lasting.

The one-of-a-kind test car has a 125-pound tubular frame and an 85-pound fiber-glass body.

Safety At Cost

The presence in President Kennedy's cabinet of a man dedicated to cutting the awesome toll of traffic accidents on U.S. streets and highways may go a long way toward making seat belts available to the car owner—at cost.

All the auto makers have announced that floor anchorages for belts will be installed free of charge in 1962 cars. That is the first step toward encouraging the wider use of belts among car owners.

The second step will be to urge all dealers—since belts are always a dealer installation—to supply the belts at cost. This poses a problem. With labor rates the same in any given community, belts would retail at the same price. Automobile dealers already bear welts from attacks by the Justice Department for price collusion.

Here's where the cabinet member comes in. He's Abraham Ribicoff, former Governor of Connecticut and now Secretary of Health, Education and Welfare. In talks with Detroit manufacturers before he joined the Kennedy cabinet, he displayed a lively interest in seat belts. Detroit is counting on him to ask Attorney General Robert Kennedy to go easy on the price-collusion angle of seat belts.

Buy It Dry

The automobile owner gets what he pays for when he buys a Delco DC-12. These batteries can't lose power on the dealer's shelf. . . they are dry till they're sold. The battery comes to life only when the dealer adds the powerful activator fluid.



Customers are assured of dependable year round starting. . . dealers can't do better than a 100% fresh battery for good customer relations. The extra fluid capacity means fewer refills, less danger of low fluid levels. The balanced gravity, all-season fluid gives owners top battery power at any temperature and for all those electrical accessories on today's cars.

Free Offer

Write to POPULAR SCIENCE for your free copy of "How To Buy A New Car" or "Take Along Checklist For Judging A Used Car."

Model Garage



not toot or even beep."

The problem sounds simple to Gus but proves to be an enigma, for the horn blows fiercely every time—except when the car is undergoing inspection.

Read how Gus does his bit for foreign aid by finally cracking the mystery in "Gus Keeps a Lady in Line." It's in May PS.

ARE YOUR BEST CUSTOMERS

Leading Automotive Advertisers Appearing in May POPULAR SCIENCE

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Kendall Motor Oil

Chevrolet Division
Chevrolet Cars

United Motors System
Delco Batteries

Harley-Davidson Motor Co.
Motor Scooter

AC Spark Plug Division
Spark Plugs

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Motorcycles

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Ford Division
Ford Cars
Ford Trucks

The Firestone Tire & Rubber Co.
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- Adjusts instantly for accurate readings on either bonded or riveted lined shoes
- Proves whether brake lining is unsafe
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- Gets wheels off cars
- Dramatizes fact that your shop uses modern tools
- Helps you clinch every possible sale



SAFE-T-GAGE makes Raybestos 7 POINT BRAKE CHECK (includes adjustment) even more effective

Combine this revolutionary precision caliper-type gage developed by Raybestos engineers with the famous Raybestos 7-Point Brake Check and you have a real double-barreled selling plan. Now more than ever before you can make wheels off pay off.

RELINE 4 CARS AND MAKE $42.37* PROFIT ON BRAKE LINING ALONE

PROFIT!
$42.37*
PROFIT!

...PLUS YOUR LABOR PROFIT!

Add to this the profit on correlated parts and you can see at a glance why we say brake business is big business—big profit business for you—especially when you use revolutionary Raybestos Safe-T-Gage.

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Here's how you can get...

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SAFE-T-GAGE



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colorful pole sign (14 in. x 20 in.)



FREE
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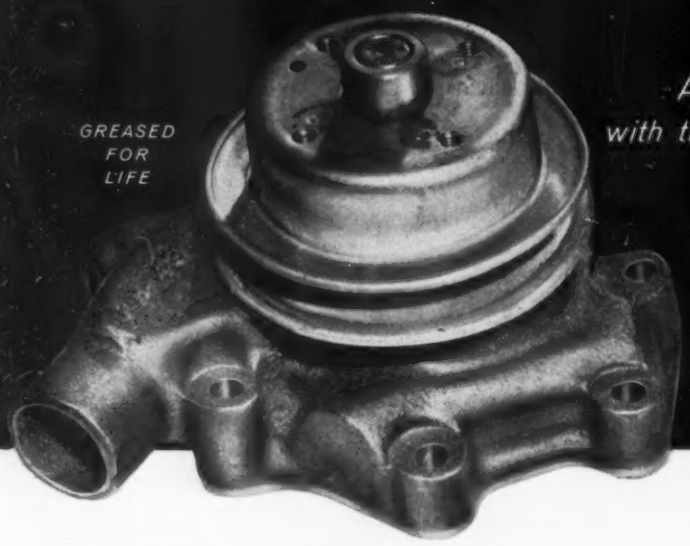




Order a Raybestos BS-8-61 Lined Brake Shoe Assortment from your jobber. It provides coverage for 43 different front and rear axle applications on popular passenger cars and light trucks from 1953 through 1961.

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AMERICA'S BIGGEST SELLING FRICTION MATERIAL

RAYBESTOS DIVISION of Raybestos-Manhattan, Inc., BRIDGEPORT, CONN.



All-new water pumps
with the exclusive McQuay-Norris

POSITIVE-STOP ASSEMBLY

McQUAY-NORRIS WATER PUMPS...

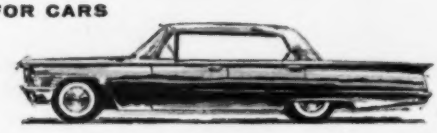
Install only McQuay-Norris water pumps, assembled by "POSITIVE-STOP" Machines that automatically position each part exactly so that perfect performance is assured.

McQuay-Norris all-new Water Pumps—lubricated for life—are designed and manufactured with engineered precision for long life and efficient, leakproof operation.

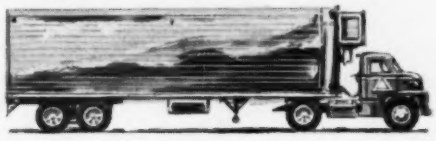
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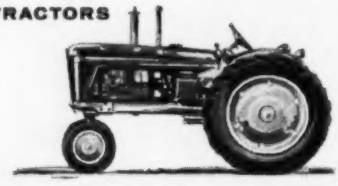
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FOR TRUCKS



FOR TRACTORS



SEE YOUR McQUAY-NORRIS WHOLESALER FOR FULL DETAILS ABOUT:

- Special Bonus Plan
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McQUAY-NORRIS MANUFACTURING CO., ST. LOUIS, MISSOURI



Get this NEW Demonstrator FREE—buy Monro-Matics by the Barrel!

Now, a great new idea to help you sell shock absorbers like you've never sold them before! Packed in a steel barrel that doubles as a hard-working display are 14 of the most popular Monro-Matic shocks and 4 Monroe Super Load-Levelers. Fastened to the underside of the barrel lid is a shock absorber demonstrator. Flip the lid, weight the barrel with sand or water, and the demonstrator is ready to clinch many a sale for you! **DON'T MISS OUT ON THIS ONE! See your Monroe jobber now!**

BD-18 Assortment	**14 Monro-Matic Shock Absorbers** **4 Super Load-Levelers**
Your selling price	**$228.20**
Cost	**$140.90**
YOUR PROFIT	**$87.30**

FREE

- $10 Shock Demonstrator
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- 2 Shock Absorber Window Banners
- 2 Load-Leveler Window Banners
- 10' Plastic Outdoor Banner
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MONRO-MATIC®
SHOCK ABSORBERS



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protect your profits with a Lathem PAYROLL and JOB TIME RECORDER

Consider the ways that time on the job can be wasted . . . can run up even higher your cost of doing business. For instance . . . too much delay between jobs . . . too much time on each job . . . excessive tardiness.

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Get this G-E MAGNETIC "GRIP-STICK" FREE*

fish small parts and tools from hard-to-get-at places



***Get it free from your General Electric headlamp supplier with one case of #4002 G-E headlamps and one case of any other G-E headlamps** —You pay just the regular price for the 2 cases of headlamps. You don't pay for the "Grip-Stick" out of hard-earned profits. The "Grip-Stick" is *in specially marked cases of* 4002's. Get one while they last.

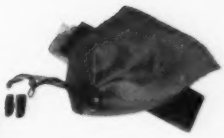
More of your customers are driving four-headlamp cars. So be prepared to cash in on this rapidly growing replacement business. Stock up now. And while you're at it, remember that one out of ten of your customers needs a new rear light so get a supply at the same time.

A big replacement market is still on two-headlamp cars, too. And to help you get a big share of this market, General Electric is running a full scale campaign in national magazines this spring. Take advantage of it, and suggest to your customers that they buy *two* G-E SUBURBAN Headlamps when they come in with *one* burnout. General Electric Company, Miniature Lamp Department, M-114, Nela Park, Cleveland 12, Ohio.

Progress Is Our Most Important Product

GENERAL ELECTRIC

"Checking each belt helps us bank extra dollars every week"



say Wayne Davis, Marvin Widness & Paul Hokanson
Karmaster Automotive Service
591 West Seventh Street, St. Paul, Minnesota





"Right from the start of our partnership six years ago," says Wayne Davis, "we've stocked Gates Belts and have followed the practice of checking belts on all cars through the shop.

"This practice really pays off double: first, because we sell a lot of belts; second, because it shows customers we do a thorough job—and that brings them back.

"We know from our books that our Gates Belt sales help us bank extra dollars every week. It takes only an average of 5 minutes to check a belt, sell and install a Gates Vulco Belt on his car. Figuring the short time it takes and the profit on the belt, I estimate we make a profit on belt-servicing time of $8 an hour—and that's a good rate of profit in any business.

"The display racks for Gates Belts and Hose both help a lot—they keep all of us reminded to check belts and hose; simplify inventory, and make it easy to find the right item for each car."



REPLACE BELTS THAT ARE...



"Go" Gates for Profit $$$... Call Your Gates Jobber TODAY!

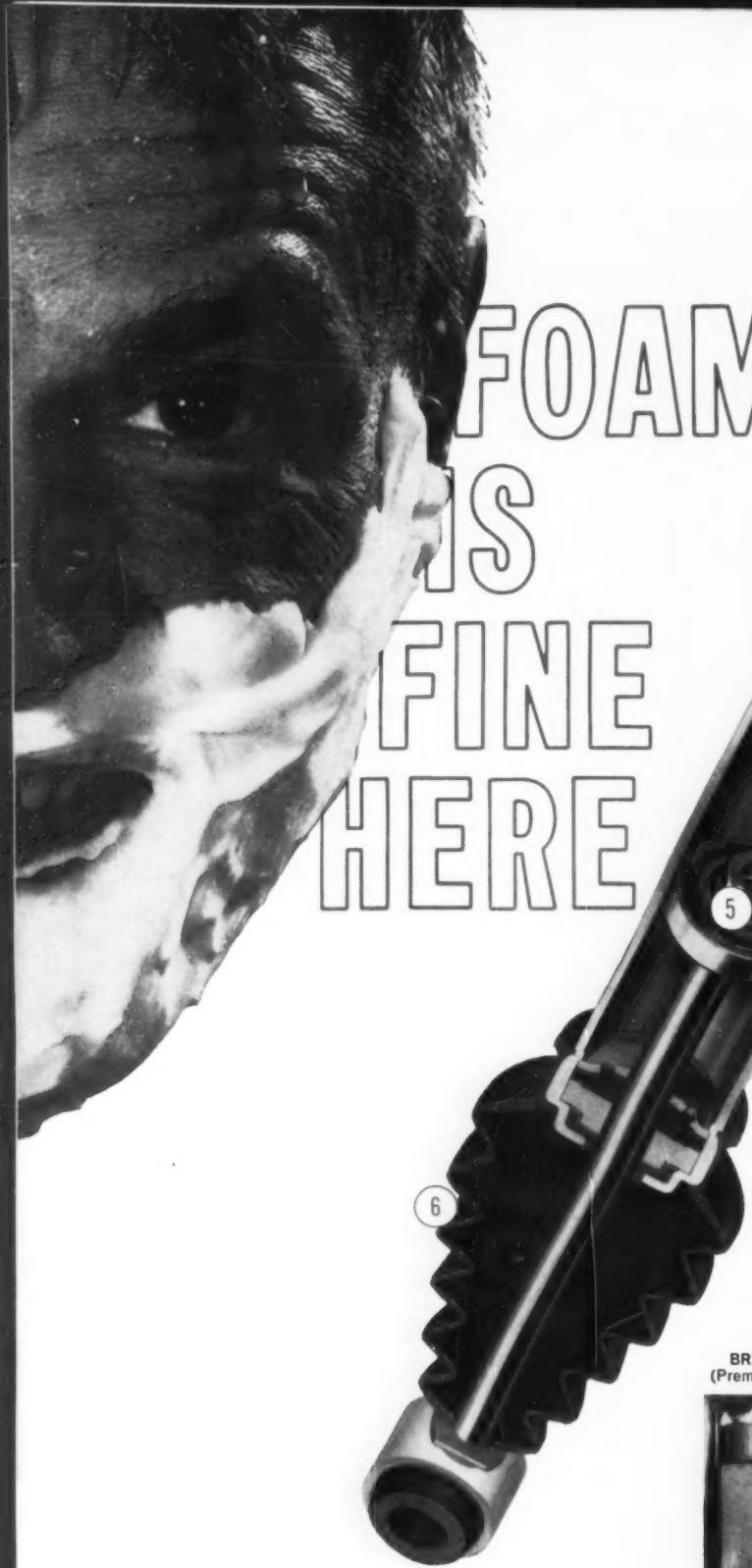
He'll have a factory-trained Gates Representative install attractive belt and hose displays, clean up your belt and hose stocks, and supply you with a complete set of Gates garage-tested sales aids. He'll help you get your stock in shape for maximum dollar profit... and you won't lose a penny on present stock!

The Gates Rubber Company, Denver, Colorado

World's Largest Maker of V-Belts

Gates Vulco V-Belts and Hose

TPA 565



FOAM IS FINE HERE



but not in a SHOCK ABSORBER

Whether in shaving lather or shock absorber fluid, foam is light and fluffy, practically without density. Yet, all shock absorbers rely on a piston working against a special fluid to cushion road bumps. When that fluid turns to foam, control turns to mush. Hop, skip and jump result.

Only new improved Columbus shock absorbers* fight foam full-time with patented revolutionary design. Check these few points of superiority. Then get the full story from your Columbus wholesaler and stock up today.

1. **Triple Strength Mounts**
2. **"No-Fade" Fluid Reserve**
3. **King-Size Working Chamber**
4. **Self-Cooling Single Tube**
5. **Exclusive Progressive Valving**
6. **Silent, Rod-Protecting Bellows**

SEE HOW ORDINARY SHOCKS FOAM, FADE, LOSE CONTROL

fight foam all ways with

COLUMBUS

FULL TIME SHOCK ABSORBERS

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